Source Control Measures Construction Completion Report

MMGL, Corp.
Doane Lake Property
6529 NW Front Avenue
Portland, Oregon

Prepared for MMGL, Corp.

May 2015



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OREGON

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Exp. Date 12/31/16

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Acronyms

APEX APEX Labs, Tigard, Oregon

BDS City of Portland, Bureau of Development Services
BES City of Portland, Bureau of Environmental Services

bgs Below ground surface

CB Catch basin

CFR Code of Federal Regulations

CHES Clean Harbors Environmental Services

City City of Portland

DEQ Oregon Department of Environmental Quality

EPA U.S. Environmental Protection Agency

ESCP Erosion, Sediment Control Plan

FML Flexible Membrane Liner

FSCE Focused Source Control Evaluation
GIS Geographic Information System
JSCS Joint Source Control Strategy

MDL Method detection limit

NC Not calculated NS Not sampled

PCB Polychlorinated biphenyl
PRG Preliminary Remediation Goal

ROW Right-of-Way

SAP Sampling and Analysis Plan SCE Source Control Evaluation SCM Source Control Measure SIC Schnitzer Investment Corp. SLV Screening Level Values

SR Shredder Residue

mg/kg Milligrams per kilogram μg/kg Micrograms per kilogram

mg/L Milligrams per liter
pg/L Picograms per liter

µg/L Micrograms per liter

SECTION 1

Introduction

Between May 9, 2014 and August 4, 2014, MMGL implemented a source control measures (SCM) program at the Doane Lake Property (Property) that was consistent with the Oregon Department of Environmental Quality (DEQ) May 9, 2013 Source Control Decision Document as approved by the United States Environmental Protection Agency (EPA) on May 17, 2013. The SCMs consisted of consolidating off-Property materials on to the Property, capping a portion of the Property, and upgrading drainage controls. The Property is located at 6529 NW Front Ave, Portland, Oregon (Figure 1¹). The Property is located in the industrial section of northwest Portland.

1.1. Project History and Purpose of SCM Construction Completion Report

On October 11, 2010, MMGL, Corp. (formerly Schnitzer Investment Corp. [SIC]) entered into a Voluntary Agreement (Agreement) with (DEQ to evaluate whether hazardous substances associated with shredder residue (SR) or "shredder fluff" are present at the Property at concentrations that may pose an unacceptable risk through transport of these materials to the Willamette River.

Under the Agreement, MMGL performed a Focused Source Control Evaluation (FSCE) to evaluate the potential contaminant pathways to the Willamette River from the Property. The results of the FSCE were presented in the September 13, 2011, Focused Source Control Evaluation Report & Proposed Source Control Actions and an April 4, 2012, Addendum to the Focused Source Control Evaluation Report. MMGL subsequently designed and received approval from DEQ and EPA for the SCMs.

The purpose of this report is to document that the SCMs implemented at the Property are in compliance with the Agreement. Doane Lake site setting and history information is presented in Section 1.4.

1.2. Source Control Objective and Conclusion

The objective of the Doane Lake SCM was to prevent soil with polychlorinated biphenyls (PCBs), cadmium, lead, mercury, and bis(2-ethylhexyl) phthalate (i.e., chemicals of potential concern, or COPCs), from impacting off-site properties. This objective was accomplished by consolidating SR² as well as other soil affected by fill from others, (i.e., impacted soil) from the City of Portland (City) Right-of-Way (ROW) to the Property and by capping portions of the Property (i.e., the "Site") where SR was at, or near, the surface.

¹ Figures are located at the end of the text portion of the report behind the "Figures" tab.

² SR was observed at limited locations in the City ROW in thin lenses typically of less than 1 foot between the surface and 3 feet bgs and mostly commingled with soil generally in low percentages of shredder residue (SR) versus soil.

Based on results from the SCM work, MMGL concludes that the near surface COPCs observed at the Property during the source control investigation are controlled and capped and otherwise prevented from impacting off-site properties. Further, SR and soil impacted by others that was located in the City ROW between the Property and NW Front Avenue was successfully removed and consolidated on the MMGL Property and capped. There is no evidence to indicate that there is a long-term or ongoing source of COPCs. Information presented in this report provides the support for this conclusion.

1.3. Report Organization

Section 1 provides setting and history of the Property. Section 2 discusses SCMs and their implementation. Section 3 summarizes the findings and conclusions from the completed work.

1.4. Property Setting and History

The Property subject to the Voluntary Agreement and the SCM consists of about 3.5 acres and is the northern portion of Tax Lot 700, City of Portland.

The Property is currently undeveloped and lies within a heavily industrialized area. The Property is approximately 1,500 feet inland from the Willamette River (Figure 2). The southwestern portion of the Property is a seasonal surface water body remnant of the former East Doane Lake. The surface water is present seasonally and varies with changes in climate. During the summer months the former lake area is typically dry. Surface water may be present during the winter months, depending upon climatic conditions.

During the early 1970s, and possibly the late 1960s, filling with SR occurred in the northeast (project north) portion of the Property. SR of that era typically consisted of non-ferrous metals and other non-reclaimable residues composed largely of plastic, rubber, glass, fabric, and foam. At the time that the SR was placed on the Property, non-ferrous metals were not marketable as they are today. In the early 1970s, SR also was stored above-grade on the Property for the purpose of testing to determine whether the SR could be further processed for the enhanced recovery of non-ferrous metals. No contemporaneous records are available that document the placement of the SR fill. Investigations performed in the 1990s indicate that SR is present below grade at the Property at varying thicknesses. During the early 1960s, slag mixed with other fill dirt was reportedly used to construct a dike along the western portion of the property along the SIC and Gould property boundary. The source of the slag was from a nearby foundry and the fill dirt was reportedly from local construction and road building projects that was generally free of debris.

1.5 Source Control Measures

In spring 2014, MMGL worked with DEQ to finalize the *Doane Lake Source Control Measures Workplan* (Bridgewater Group, May 7, 2014; see Appendix A) (Workplan). The Workplan includes:

- Copies of the November 8, 2013 City of Portland Bureau of Development Services (BDS) Site Development Permit (Permit 13-188249-000-00-SD);
- DEQ-approved September 11, 2013 Construction Storm Water Control Permit; and
- Construction specifications and plans.
- Tree Cutting Permit

The Site Development Permit and associated Portland Bureau of Transportation Encroachment Permit granted MMGL access to the City ROW to allow the removal of SR and backfilling of the area.

Site work included:

- Clearing and grading the portion of the Property that was filled with SR plus additional areas of the Property (together, the "Site") to facilitate stormwater collection and retention in the onsite remnant lake;
- Removal of impacted soil from the City ROW adjacent east of the Property and consolidation of the material on the Site;
- Construction of a capped perimeter stormwater collection conveyance system that drains to the remnant lake, and
- Capping the Site with a minimum of 12-inches of material consisting of 6inches of quarry material and 6-inches of clean topsoil.

MMGL's contractor, Munitor Construction, mobilized to the site the week of May 9, 2014. Field work was substantially completed by August 4, 2014.

As part of the work planning, MMGL drafted an Easement & Equitable Servitude (EES) that stated the required actions and restrictions on the Property use. MMGL also developed a Soil and Cap Management Plan (SCMP) that is referenced in the EES. The EES and SCMP were originally submitted to DEQ in August 2012 for review and concurrence, at which time the DEQ had no further comments. Revised editions of both documents were submitted to the DEQ in May 2015. The DEQ issued minor comments to the SCMP as specified in DEQ's May 21, 2015 review letter. The EES and SCMP will be finalized following approval from the DEQ and recorded. Documentation of the recording of these documents will be provided to DEQ. The cap will be inspected and maintained. Annual inspection reports will be provided to the DEQ as specified in the SCMP. No other post SCM monitoring is required.

SECTION 2

Source Control Measures Implementation

Following approval of the source control decision document in May 2013, MMGL developed contract specifications for use in a competitive bidding process with prospective contractors. The contract specifications were submitted to DEQ with the Workplan on May 7, 2014. On May 22, 2014, DEQ issued a comment letter to MMGL approving the Workplan (See Appendix A).

The SCMs consisted of:

- Clearing and grubbing the Site for the cap and storm water collection system, removing impacted soil from the City ROW (Area 1); consolidating the impacted soil on the Property (Area 2);
- Grading the Site with the exception of the remnant lake area; and
- Capping the Site with 12 inches of clean imported material (Area 2).

Each task is further described in following sections of this report. The work was completed in accordance with the Workplan with some minor deviations described in Section 2.4.

Prior to initiation of ground disturbing activities, MMGL's contractor installed the required erosion controls per the National Pollution Discharge Elimination System (NPDES) 1200-C Construction Stormwater Discharge Permit, Erosion and Sediment Control Plan (ESCP). Copies of the 1200-C permit and ESCP are provided in Appendix B.

Representative photographs of the various SCM activities are presented in Appendix C.

2.1 Clearing, Grubbing, Tree Removal, and Grading

The eastern portion of the Site was vegetated with invasive trees and brush, grasses, and cottonwood trees. The vegetation was removed prior to grading the Site. MMGL's contractor, Munitor Construction, removed the large diameter trees (>12 inches diameter) as authorized by the tree-cutting permit, by cutting them at their base with a chain saw. Small diameter trees (<12 inches) were pushed over with an excavator.

The wood debris (approximately 9.03 tons) with no visible signs of soil was placed directly into a dump truck and transported off-site for recycling (Appendix D). The tree stumps and root balls were removed from the site with an excavator and taken offsite for disposal at Hillsboro landfill. Vegetation was grubbed from the surface with an excavator and Caterpillar D3 dozer. The soil was removed from the vegetation, wood debris and root balls with an excavator prior to disposing offsite.

Several large pieces of concrete were unearthed during the clearing, grubbing and grading that were loaded in a dump truck and transported to Hillsboro Landfill for disposal.

Approximately 98.04 tons of concrete rubble, tree stumps and root balls were transported to Hillsboro Landfill for disposal under Waste Profile #105422OR (Appendix D).

The southern portion of the Site was, on average, 2 to 3 feet higher in elevation than the northern portion. The high spots were loaded into an earthmover and graded across the northern portion of the Site. Lastly, the stormwater collection swales were constructed to allow for a minimum of 12-inches of clean imported quarry material or topsoil.

2.2 City of Portland ROW (Area 1) Removal & Verification Sampling

This section describes the removal of impacted soil and verification sampling MMGL performed in the City of Portland ROW.

2.2.1 Area 1 Removal

From May 27, 2014 to June 10, 2014, MMGL's contractor, Munitor Construction, excavated impacted soil from the City ROW and relocated it to the Site. Soil and material with no visible signs of SR was also removed from the City ROW and consolidated on the Site. The non-SR materials included foundry sand with limited fragments of brick encountered in the northern portion of the excavation and sandy silt (i.e., native soil or possibly dredge spoils) encountered at depths generally greater than 3-feet in all but the northern portion of the excavation.

The excavation was completed with a Hitachi EX100 excavator. Erosion control BMPs were implemented throughout the project. Catch basin inlet protection was installed in NW Front Avenue prior to the start of work as required by the 1200-C Permit. Catch basin sediment fabric was installed and the grates were wrapped with visqueen plastic. NW Front Avenue was swept with hand brooms while traffic was entering and leaving and a street sweeper performed sweeping at the end of each workday during the ROW excavation and backfilling.

The Area 1 excavation area extended from the NW Front Avenue curb to about 3-feet inside the MMGL property line (approximately 30-feet to the west) and from the NW Gould property line and south approximately 435-feet about to the Air Liquide Lease line. The excavation area is shown in Figure 3. Consistent with the City's utility corridor fill Ordinance 17.24.067, the excavation extended down to 5-feet below ground surface (bgs) for the entire length of the ROW, except in a small area near the northern end where the presence of power and light poles limited the excavation to approximately 2.5-feet bgs.

Portland General Electric (PGE) required MMGL to leave soil in-place at the base of each of the six power poles present in the Area 1 excavation footprint to maintain the stability of the poles. Power pole 318' and power pole 332' were deep enough to

allow the removal of the top 3-feet of soil with the remaining deeper soil consisting of sandy silt with no visible evidence of SR. Pole 318' was wrapped with contaminant barrier as a precaution to allow backfilling prior to receiving laboratory analytical results however, as noted, no SR was observed. Pole 332' was not wrapped with impermeable barrier because there were not visible signs of SR and laboratory results were received prior to backfilling which confirmed the absence of COPCs. Visible indications of SR was observed around Pole 20', Pole 24', Pole 47' and Pole 251' and these areas were therefore sampled.

The final excavation was approximately 435 feet long, 27 to 30 feet wide, and 5 feet deep with the exception of the area between the power poles and NW Front Avenue near the entrance of the Property that was approximately 2.5-feet deep. The excavation remained dry to 4.8 to 5.0 feet bgs. At about 5 feet bgs groundwater intrusion was observed in limited locations. Near the entrance, the excavation filled with surface water from the NL Gould site bioswale immediately adjacent to the north of the excavation.

Approximately 2,400 cubic yards of impacted soil was removed from the City ROW and consolidated on the Site (i.e., the area of the Property to be capped). SR was typically observed in thin lenses of less than 1 foot in the upper 3 feet in the City ROW. However, additional material was removed to 5 feet bgs to ensure compliance with the City Site Development Permit (i.e., consistent with the City's utility corridor fill Ordinance 17.24.067). The additional excavation was not driven by the exceedance of any cleanup standard or presence of SR.

2.2.2 Verification Sampling

Attachment 3 of the approved Site Development Permit (Appendix A) titled *Right of Way Excavation Verification Sampling Plan* required soil sampling and analysis on the bottom of the excavation and north, east, and west side walls to verify that the removal actions performed within the City ROWs were consistent with the City's utility corridor fill ordinance, or to document the concentration of materials left in place per the Site Development Permit.

Following excavation to the target depth (5 feet) and widths, verification side wall soil samples were collected at the locations and depths designated in the Workplan. MMGL collected discrete samples at each of the designated locations in accordance with the *Addendum to the Focused Source Control Evaluation Report*, dated April 4, 2012. Each day that verification samples were collected, the samples were delivered to APEX Laboratories in Tigard for PCB analysis. Figure 5 shows the sample locations. Verification sampling results are provided in Table 1.

Per the *Right of Way Excavation Verification Sampling Plan*, if soil impacted by SR is left in place, MMGL was required to collect and analyze representative soil samples from these locations for PCBs and Resource Conservation and Recovery Act (RCRA) eight metals. If the metals concentrations exceeded 20x the toxicity characteristic leachate procedure (TCLP) hazardous waste thresholds, TCLP analysis was performed to determine if the in-place soil may have to be managed as a hazardous waste if the City removes the soil in the future.

Based on field observations at the excavation limits and the results of the analysis, the following samples were analyzed by the TCLP:

- 140609-NSW1' and NSW4' collected from the north side wall
- 140609-minus20floorLIP, minus20ESW1'LIP, and minus20ESW4'LIP were collected from the floor of the excavation at 5 feet bgs and from the east side wall respectively, in the vicinity of the foundry sands³
- 140609-25ESW1 collected from the east side wall at one-foot bgs.
- 140528-225ESW16in and 225ESW27in collected from the east side at 16 inches and 27 inches bgs, respectively.
- 140527-32'PoleLIP and 140530-251'Light Pole LIP were collected from soils that were left in place (LIP) at the base of the power poles and light pole near the entrance, where the sample from Power Pole 32' represent the soil LIP at the other three power poles in the near vicinity, and from light pole 251' slightly past the mid-point of the excavation.

Lead was the primary constituent that exceeded 20 times the TCLP limit (in nine of the 25 sample locations). At sample location minus20ESW4′ cadmium and mercury also exceeded 20 times the TCLP. The TCLP hazardous waste threshold for lead (5 mg/L), was exceeded only at minus20ESW4′ where TCLP lead was detected at 9.62 mg/L. The TCLP threshold for lead was not exceeded at any other locations, and cadmium, or mercury were not detected above their respective TCLP thresholds at minus20ESW4. Figure 5 shows the sample locations. Verification sampling results and follow-up TCLP results are provided in Table 1. A consolidated laboratory analytical report is provided in Appendix E.

2.2.3 Excavation Lining and Backfilling

Consistent with the City's utility corridor fill ordinance 17.24.067, MMGL installed an impermeable contaminant barrier (60 mil visqueen) along the side walls of the excavation from the ground surface to the bottom of the excavation where soils did not meet the definition of "utility corridor fill."

MMGL also placed an impermeable containment barrier on the excavation bottom in the northern section of the excavation where black sand, that resembles foundry sand, was encountered (see Section 2.4, *Deviations from Workplan*).

In summary, an impermeable contaminant barrier was installed at the following locations:

- 1. North side wall extending from NL Gould property line to NW Front Ave.
- 2. The floor of the excavation basin from the NL Gould Property line extending approximately 40 feet south where foundry sand was left in place at the finish depth of the excavation basin, approximately 5 feet bgs.
- 3. East side wall from NL Gould property line proceeding approximately 90 feet south around the power poles and City light poles. Soil could not be

³ MMGL voluntarily analyzed the foundry sand samples for TCLP constituents due to time constraints. The totals analysis did not exceed 20 times the TCLP limit, which was the threshold for performing TCLP analysis on the verification samples.

removed to a depth of 5 feet between the power poles at NW Front Ave at this location. Therefore, the top 2.5 feet of soil where removed and the poles were wrapped with visqueen.

- 4. East side wall starting from 175+00 to 395+00.
- 5. Around power pole 20+00, 24+00, 47+00, and 176+00. It is estimated that less than 5 cubic yards of noncompliant utility corridor fill remains in place at the base of the power and light poles.

The locations where impermeable barriers are installed are shown in Figures 4, *As-Built Drawing*.

Soil that does not meet the definition of utility corridor fill remaining beneath NW Front Avenue appears to be present in pockets within the upper 1-2 feet of compacted crushed aggregate beneath the roadway pavement. The non-compliant utility corridor fill is likely present in this area due to movement and re-grading of SR by the City during construction of NW Front Avenue. The depth or quantity of the foundry sand left in place is not known. MMGL did not investigate the vertical or lateral extent of the foundry sand.

Once verification sampling and analysis was complete and the impermeable barriers placed, the excavation was back-filled with approximately 2,918 tons of clean quarry fill material obtained from Knife River quarry at 14545 NW St. Helens Road, Portland, Oregon⁴. The quarry fill consists of poorly graded, silty sand with gravel.

The City ROW was graded and contoured to drain away from NW Front Ave, toward the MMGL property and then compacted with the Caterpillar 300D miniexcavator tracks followed with a dual drum vibratory roller compactor. Finally, the area was covered with 2 to 3 inches of sandy loam topsoil to facilitate grass seed germination. All disturbed areas were hydro-seeded on July 25, 2014.

The SCM met the requirements of the City Site Development Permit as the excavation was completed to a depth of 5 feet bgs and backfilled with clean soil and where side wall samples indicated the soil did not meet the City Ordinance 17.24.067 were covered with a contaminant barrier (60-mil visqueen) prior to backfilling the excavation.

2.3 Capping MMGL Property (Area 2)

On June 13, 2014 MMGL performed a pre-cap topographic survey of the Site to facilitate documenting of the final cap thickness.

MMGL's contractor imported and graded 4,474 tons of clean quarry fill material obtained from Knife River quarry at 14545 NW St. Helens Road, Portland, Oregon. The quarry material consists of poorly graded silty sand with gravel. The quarry material was the initial cover over the cap area and was compacted with the Caterpillar D3 dozer to a minimum 6-inch depth. Quarry material also was used to

⁴ DEQ concurrence or approval was requested by MMGL to utilize the Knife River Quarry material. DEQ indicated that approval was not needed to use quarry material.

raise the grade of the entrance and to build stormwater berms. Prior to placing the initial layer, MMGL's contractor installed a demarcation layer consisting of Pro Silver nonwoven geotextile fabric. Each run of geotextile fabric was overlapped a minimum of 3 inches to ensure coverage.

MMGL's contractor then imported and graded 3,315 yards (approximately 4,304 tons) of sandy loam topsoil. R.A Roth Construction & Sons Inc supplied the topsoil. MMGL received DEQ's approval on May 1, 2014, to utilize the topsoil (Appendix F). The laboratory analytical report documenting the non-contaminated nature of the topsoil is provided in Appendix F. The topsoil was placed over the entire cap area and compacted with the Caterpillar D3 dozer to a minimum of 6 inches.

Lastly, MMGL performed a post-cap topographical survey on June 30, 2014, to verify the cap depth meets the minimum 12 inches of cover as well as the minimum of 6 inches of topsoil specified by DEQ. Based on the post-cap survey, several areas required additional topsoil. As a result, on July 7, 2014, MMGL's contractor imported additional topsoil and placed it in the areas needing additional fill to meet cap thickness requirements. A follow-up topographic survey performed on July 9, 2014 confirmed that the cap met the minimum thickness in all areas surveyed. Figure 6 shows the final cap area and thickness measurements documented during the July 9, 2014 survey. Cap depth measurements on the figure are recorded in decimals (e.g., 1.0 equals 12 inches).

Per the Workplan, confirmation potholing was performed after placement of the initial cap material and compared to the post cap survey results to verify that the final layer was a minimum of 6 inches of topsoil. Bridgewater Group established a grid of sample points at approximately 75-foot centers across the cap area and dug 18 holes with a concrete chisel and trowel until the grey geotextile liner was observed and then an initial cap thickness was measured. Bridgewater Group returned with the survey crew to the same locations after the final top soil cap material was placed and documented a total cap thickness and subtracted the initial depth measurement to verify the topsoil layer was a minimum 6-inch depth. Figure 7 shows the initial and final cap layer depths measurements based on the potholing and the final topographic survey.

All disturbed areas were hydro-seeded on July 25, 2014, with Hydro Mulch 1000 which is 100 percent wood fiber mulch with fibers averaging 0.25 inches or longer. A soil binder is added to the hydro mulch during the application process.

2.4 Onsite Stormwater Collection

The Property has no plumbed or surface water connections to the City of Portland stormwater collection system. The SCM improved and augmented the existing onsite stormwater swales to ensure all stormwater from the Site is controlled and routed to the onsite Doane Lake remnant. MMGL raised the level of the berms around the Doane Lake remnant by 6-inches to increase the onsite stormwater retention capacity of the Property and as noted in section 2.2.1, the City ROW was

sloped away from NW Front Avenue toward the MMGL Property to limited discharges from the ROW.

2.5 Deviations from the Workplan

Minor deviations from the May 2014 Workplan occurred:

- City ROW Excavation (Area 1) Based on visual indications and verification sample results during the ROW excavation, MMGL excavated additional material. Specifically, MMGL had assumed a 2-foot section could be left in place adjacent to the curb. However, SR was observed in several locations at the planned limits of the excavation or verification sample results detected contaminants. Consequently, MMGL excavated up to the edge of the NW Front Ave curb starting at station approximately 90+00 and continuing to end of the excavation at station 395+00.
- City ROW Excavation (Area 1) MMGL planned to the leave the entrance in place. However, visual indications and verification sample results indicated SR and what appeared to be foundry sand was present beneath the entrance. Consequently, MMGL removed the asphalt and disposed of it at a permitted landfill, and excavated the ROW from the southern point of the concrete apron (station 00+00) and proceeded north to the Nikko Materials USA (formerly NL Gould) property boundary as if it was extended across the City ROW.
- City ROW Excavation (Area 1) Materials resembling foundry sands were encountered at the north end of the City ROW at approximately -20+00 and extended to the Nikko Materials USA property line. The foundry sand was encountered approximately 3-4 feet bgs and extended to 5 feet bgs. MMGL did not excavate deeper than 5 feet bgs. A 60-mil visqueen contaminant barrier was installed on the floor and walls of the excavation prior to backfilling the area. The material resembling foundry sand was isolated to area on the northern end of the Site and capped per the Workplan. MMGL placed a layer of geotextile fabric beneath the sand before it was placed and graded and another layer on top of the sand prior to placing the initial cap layer. MMGL then surveyed the perimeter boundary for future reference.
- Cap Area (Area 2) The cap design called for a uniform 36 feet elevation based on the City of Portland datum, graduating down at a maximum 4.0 percent grade to elevation 32 feet. However, due to the quantity of soil removed from the City ROW and soil present on the southern end of the Property, the highest elevation at the Site is 37 feet, which graduates down to approximately 33 feet. The final grades are not as uniform as designed and range from 1.0 percent on the top of the cap to nearly 4.5 percent on the sides of the stormwater swales. The average slope at the Site is well below 4.0 percent with the majority of the Site at approximately 1.5 percent. The steeper slopes along the sides of the stormwater swales are very short distances and should not result in erosion.
- Cap Area (Area 2) The cap area was expanded by approximately 17,836 square feet. While grading the southern portion of the Property, there were some limited indications that SR was present just outside the planned cap limits. As a conservative precaution and constructability, MMGL extended the cap to the southern most stormwater swale. MMGL also placed 12 inches of cover over the

stormwater swales and berm as required by DEQ and the 1200-C Construction Stormwater permit. The expanded cap area is shown in Figure 4.

SECTION 3

Source Control Measures Performance Monitoring

As specified in the EES and SCMP, for the first five years after the SCM is completed, the cap will be inspected annually for conformance with the design specifications. MMGL will prepare and submit an annual report to DEQ when they are completed. Annual performance monitoring will be conducted for a period of five years.

Every five years thereafter, the cap will be inspected annually for conformance with the design specifications. MMGL will prepare and submit its report to DEQ when completed.

Upon acceptance by DEQ of six annual inspection reports (i.e., after 10 years), MMGL or the current owner may request in writing that DEQ re-evaluate the scope and frequency of inspections and reporting. No change in the scope or frequency of the inspections or reports will be made without written approval by DEQ.

SECTION 4

Summary

Between May 9, 2014 and August 4, 2014, MMGL successfully implemented SCMs consistent with the May 9, 2013 DEQ Source Control Decision Document approved by the Environmental Protection Agency (EPA) on May 17, 2014.

Impacted soil (i.e., SR, fill from the City ROW, and foundry sands) is capped on the Property with at least 1 foot of clean, imported soil to prevent impacts to off-site properties. Impacted soil has been generally removed to a depth of 5-feet from the City ROW adjacent east of the Property and consolidated under the Site cap. Soil that does not meet the City utility corridor fill Ordinance remains in place around PGE power poles and City light poles (less than 5-cubic yards) and beneath NW Front Avenue. The quantity of utility corridor fill that does not meet the City Ordinance that remains beneath NW Front Avenue is unknown and it appears that this material is the result of movement of SR by the City during construction of NW Front Avenue. Foundry sands appear confined to an area near the entrance of the Property. However, consistent with the requirements of the City Site Development Permit, soil that does not meet the City utility corridor fill Ordinance remaining along the boundaries of the City ROW excavation is isolated by an impermeable contaminant barrier placed on the side walls and floor of portions of the excavation basin.

Stormwater from the site is 100 percent controlled with a stormwater collection system that surrounds the capped area. The stormwater collection system drains to the onsite Doane Lake remnant where it will infiltrate. Offsite discharge of storm water is not anticipated.

MMGL has developed a Soil and Cap Management Plan (SCMP) and will perform annual cap inspections each year. The results of the cap inspections will be documented and annual reports will be submitted to DEQ by October 1. Corrective actions will be implemented if damage to the cap is observed during annual inspections.

Tables

Table 1 City of Portland Right-of-Way Verification Sample Analytical Laboratory Results MMGL Corp. Doane Lake, Portland, Oregon

	May 2014														
	A4F0188-04	A4F0188-05	A4F0188-03	A4F0188-06	A4F0188-07	A4F0188-01	A4F0188-02	A4E0393-03	A4E0393-04	A4E0393-05	A4E0393-06	A4E0704-01	A4E0704-02	A4E0393-08	A4E0393-09
Chemical	140609-NSW1'	140609-NSW4'	140609-minus 20FloorLIP ^a	140609-minus 20ESW1'LIP ^a	140609-minus 20ESW4'LIP ^a	140609- 25ESW1'	140609- 25ESW4'	140515-25 Floor	140515- 125ESW1	140515- 125ESW4	140515-125 Floor	140528- 225ESW16in	140528- 225ESW27in	140515- 225ESW4	140515-225 Floor
000 (#)															
PCBs (μg/kg)															
Aroclor 1016	23.6 U	23.4 U	21.2 U	19.3 U	458.0 U	20.5 U	21.1 U	24.4 U	21.6 U	26.2 U	21.9 U	41.8 U	21.1 U	27.0 U	24.5 U
Aroclor 1221	23.6 U	23.4 U	21.2 U	19.3 U	458.0 U	20.5 U	21.1 U	24.4 U	21.6 U	26.2 U	21.9 U	41.8 U	21.1 U	27.0 U	24.5 U
Aroclor 1232	23.6 U	23.4 U	21.2 U	19.3 U	458.0 U	20.5 U	21.1 U	24.4 U	21.6 U	26.2 U	21.9 U	41.8 U	21.1 U	27.0 U	24.5 U
Aroclor 1242	23.6 U	23.4 U	21.2 U	19.3 U	458.0 U	20.5 U	21.1 U	24.4 U	21.6 U	26.2 U	21.9 U	77.5	21.1 U	27.0 U	24.5 U
Aroclor 1248	23.6 U	23.4 U	21.2 U	19.3 U	458.0 U	20.5 U	21.1 U	24.4 U	21.6 U	26.2 U	21.9 U	41.8 U	21.1 U	27.0 U	24.5 U
Aroclor 1254	23.6 U	61.3	21.2 U	1020	9940	650	398	24.4 U	21.6 U	26.2 U	21.9 U	1400	21.1 U	27.0 U	24.5 U
Aroclor 1260	23.6 U	47.8	21.2 U	608	1610	381	258	24.4 U	21.6 U	26.2 U	21.9 U	1880	21.1 U	27.0 U	24.5 U
Total PCB Aroclors ⁴	83 U	168	74 U	1676	12695	1082	709	85 U	76 U	92 U	77 U	3441	73.9 U	95 U	86 U
Phthalates (µg/kg) Bis(2-ethylhexyl) phthalate	48.9	255 Q-41	47.2 U	39000	1190 U, R-04 Q-41	751	271	80.3 U	38.4 U	43.7 U	39.6 U	1150	44.3 U	46.4 U	43.4 U
Total Metals (mg/kg)															
Arsenic			8.29	7.26	18.9										
Barium		1	89.9	292	839										
Cadmium	0.468	5.11	5.11	8.42	36.90	6.39	1.69	0.28	0.272	0.88	3.35	5.74	6.4	0.302 U	0.275 U
Chromium			234	72.8	107										
Lead	444	770	60.6	379	1630	385	77.7	118	19.5	22.7	5.27	633	724 Q-41	8.88	6.33
Mercury	0.214 U	0.248 U	0.221 U	0.369	6.10	0.351	0.20 U	0.197 U	0.207 U	0.210 U	0.219 U	0.446	0.501	0.242 U	0.220 U
Selenium			U, 1.38 Q-29	U, 1.3 Q-29	1.73 Q-29										
Silver			0.374	0.463	1.38										
TCLP Metals (mg/L)															
Arsenic		1	0.2 U												
Barium		1	1.03												
Cadmium			0.10 U		0.346							*			
Chromium			0.2 U												
Lead	0.293	0.116	0.1 U	1.03	9.62	0.186			<u> </u>		†	0.416	0.05 U		
Mercury		1	0.008 U		0.004 U						1				
Selenium		1	0.200 U												
Silver		†	0.100 U	†					†		†	1	†		
		+		+					<u> </u>		·	 	·	····	

Bank field indicates the sample was not analyzed for that constituent

U - Not detected at noted reporting limit

J - Estimated value LIP - Left In Place

R-04 Reporting levels elevated due to dilution necessary for analysis.

Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.

Expanded metals list to evaluate black sands present at sample location

Page 1 of 2 Bridgewater Group, Inc.

Table 1 City of Portland Right-of-Way Verification Sample Analytical Laboratory Results MMGL Corp. Doane Lake, Portland, Oregon

	A4E0765-01	A4E0704-05	A4E0393-12	A4E0674-03	A4E0393-14	A4E0674-04	A4E0758-04	A4E0758-03	A4E0758-01	A4E0758-02
Chemical	140530- 325ESW1'	140528- 325ESW4'	140515-325 Floor	140527- 360'SSW1	140515-SSW4	140527-32'Pole LIP	140530- 176'Pole2LIP	140530-251' Light Pole LIP	140530-318' Pole LIP	140530- 332'Pole LIP
PCBs (µg/kg)										
Aroclor 1016	21.7 U	22.3 U	21.5 U	23.0 U	24.1 U	43.0 U	21.6 U	45.8 U	20.4 U	22.2 U
Aroclor 1221	21.7 U	22.3 U	21.5 U	23.0 U	24.1 U	43.0 U	21.6 U	45.8 U	20.4 U	22.2 U
Aroclor 1232	21.7 U	22.3 U	21.5 U	23.0 U	24.1 U	43.0 U	21.6 U	45.8 U	20.4 U	22.2 U
Aroclor 1242	21.7 U	22.3 U	21.5 U	23.0 U	24.1 U	155	21.6	134	20.4 U	22.2 U
Aroclor 1248	21.7 U	22.3 U	21.5 U	23.0 U	24.1 U	43.0 U	21.6 U	45.8 U	20.4 U	22.2 U
Aroclor 1254	110	22.3 U	21.5 U	23.0 U	24.1 U	580	60.7	2130	20.4 U	22.2 U
Aroclor 1260	105	22.3 U	21.5 U	23.0 U	24.1 U	348	49.5	1570	20.4 U	22.2 U
Total PCB Aroclors ⁴	269	78 U	75 U	81 U	84 U	1169	175	3926	71 U	78 U
Phthalates (µg/kg) Bis(2-ethylhexyl) phthalate	578	53.7 U	39.2 U	40.8 U	79.5 U	293 R-04	563 U, R-04	6430	61.8 U	222 U, R-04
Total Metals (mg/kg)										
Arsenic										
Barium										
Cadmium	1.31	0.306	0.268 U	0.351	0.273 U	3.81	1.15	23.0	0.514	0.333
Chromium										
Lead	76.6	22.5	13.1	17.4	76.7	192 Q-41	100	1220	177	67.6
Mercury	0.0992 U	0.106 U	0.215 U	0.104 U	0.218 U	0.160	0.102 U	0.661	0.134	0.0986 U
Selenium										
Silver										
TCLP Metals (mg/L)										
Arsenic				1						
Barium				1						
Cadmium				1						
Chromium				1						
Lead				1		0.0865		3.74		
Mercury				1						
Selenium			[1						
Silver				†						
			1	1	1					

Bank field indicates the sample was not analyzed for that constituent

- U Not detected at noted reporting limit
- J Estimated value
- LIP Left In Place
- R-04 Reporting levels elevated due to dilution necessary for analysis.

 Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.

 Expanded metals list to evaluate black sands present at sample location

Bridgewater Group, Inc. Page 2 of 2

Figures

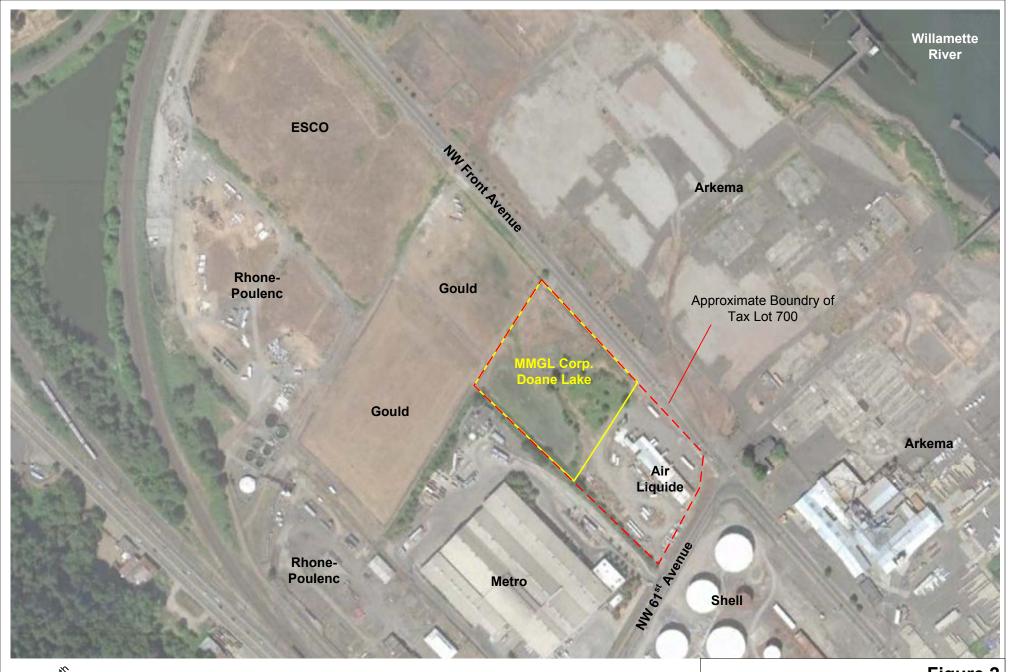




Approximate Scale
3600 Feet

Figure 1
Site Location
Doane Lake Source Control Action
MMGL Corp.

BRIDGEWATER GROUP, INC.





— — Tax Lot Boundry

Figure 2
Site Vicinity
Doane Lake Source Control Action
MMGL Corp.

BRIDGEWATER GROUP, INC.



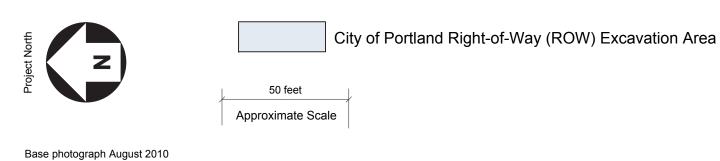
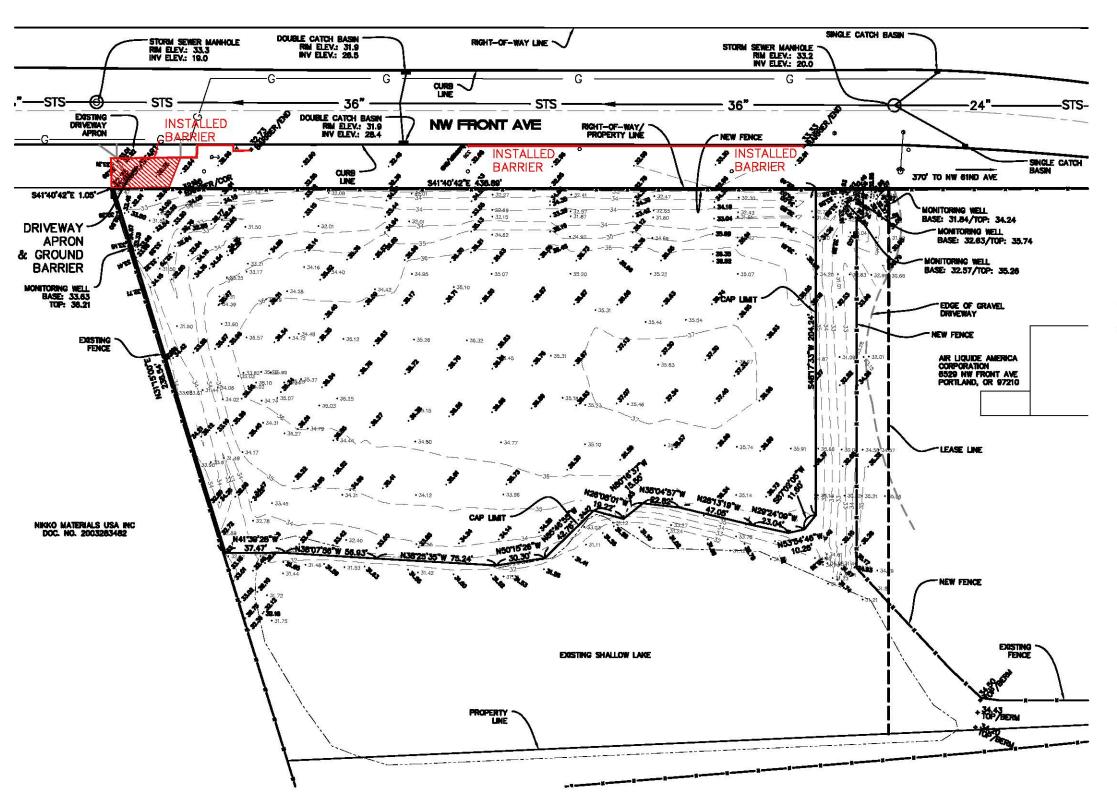


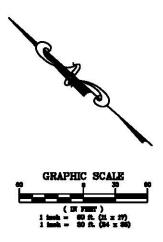
Figure 3
ROW Excavation Area – Area 1
Doane Lake Source Control Action
MMGL Corp.

Bridgewater Group, Inc.

DOANE LAKE AS-BUILT MAP

LOCATED IN SECTION 13, TIN R1W, W.M. PART OF TAX LOT 700 MAP 01N01W13 PORTLAND, OREGON





LEGEND

	<u></u>	-1-1	
(M)	MEASURED DISTANCE	-	POWER POLE
(P)	PLATTED DISTANCE	\$	SIGN/LIGHT POST
(R)	RECORDED DISTANCE	♡	HYDRANT
(D)	DEEDED DISTANCE	0	TREE - DECIDUOUS
•	FOUND CORNER	***	TREE - CONIFEROUS
0	SET CORNER	-x-	FENCE - CHAIN LINK
	CENTERLINE	—G—	GAS LINE
	PROPERTY LINE	$-{\it sts}-$	STORM SEWER LINE
	WATER VALVE	b—————	WATER LINE (5/5/2011)
o	POWER POLE		
عي	POWER POLE WITH GUY WIRE		
.15	SURVEY POINT SHOWING FI	INISH ELEVATI	ON
~~/	CONTOUR LINE (POST-CAP	')	
***	SURVEY POINT SHOWING S	POT ELEVATIO	N AND DESCRIPTION

SURVEY POINT SHOWING PRE-CAP ELEVATION

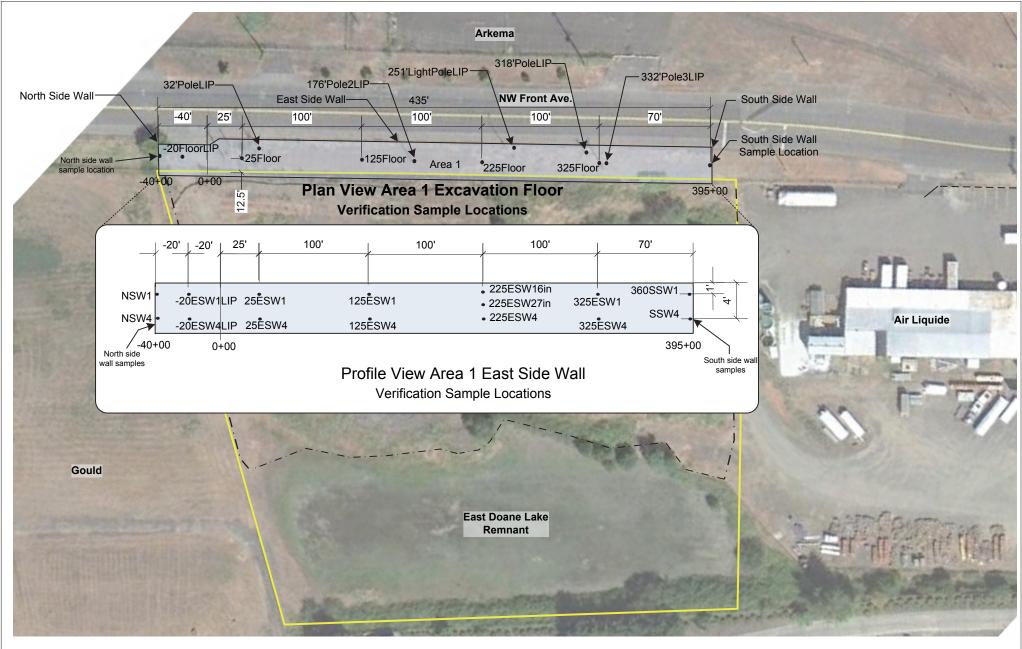
Figure 4
As-Built Drawing
Doane Lake Source Control Action
MMGL Corp.



CLIENT: BRIDGEWATER GROUP INC.



14-087 Doone Lake.DWG DATE OF PLOT: 9-10-20





Not to Scale
Base photograph August 2010

Excavation Area

 Verification sample location (Sample Date was left off for brevity)

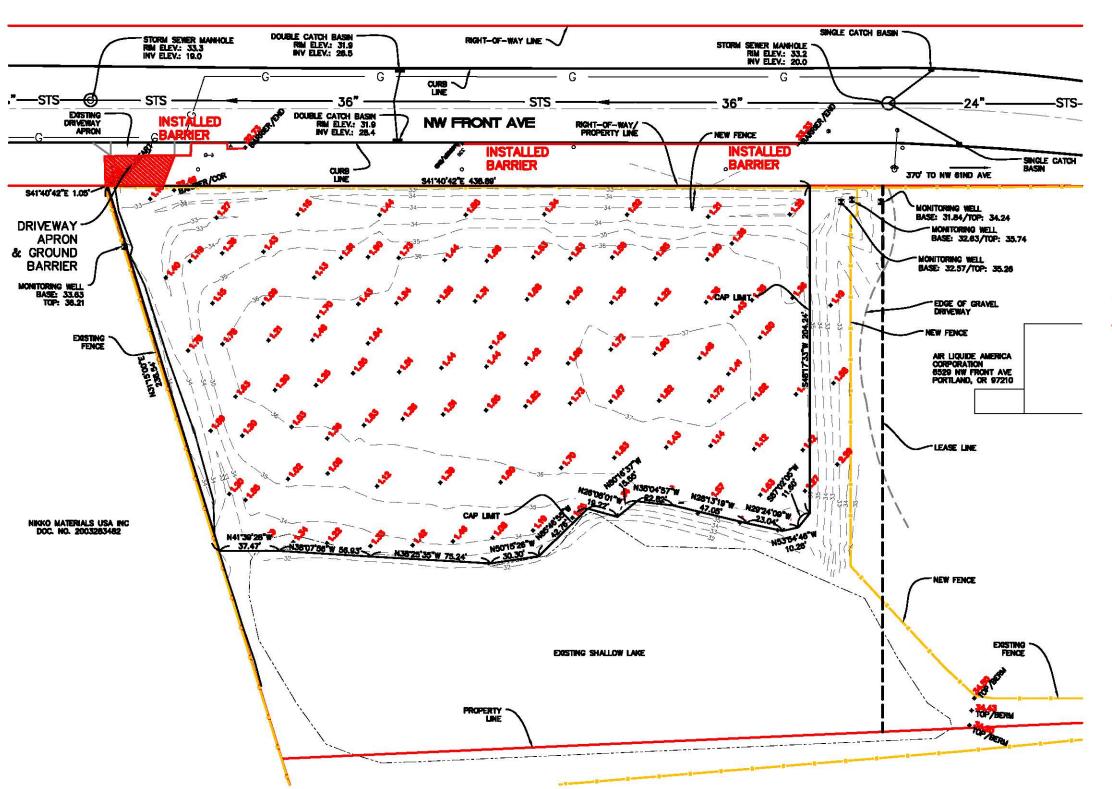
Figure 5

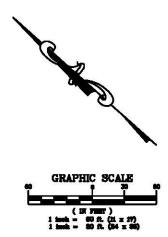
Verification Sample Locations – Area 1 Doane Lake Source Control Action MMGL Corp.

Bridgewater Group, Inc.

DOANE LAKE CAP DEPTH MAP

LOCATED IN SECTION 13, TIN R1W, W.M. PART OF TAX LOT 700 MAP 01N01W13 PORTLAND, OREGON





LEGEND

(M)	MEASURED DISTANCE	-	POWER POLE
(P)	PLATTED DISTANCE	*	SIGN/LIGHT POST
(R)	RECORDED DISTANCE	❤	HYDRANT
(D)	DEEDED DISTANCE	0	TREE - DECIDUOUS
	FOUND CORNER	**	TREE - CONIFEROUS
0	SET CORNER	-x-	FENCE - CHAIN LINK
7	CENTERLINE	—G—	GAS LINE
<u> </u>	PROPERTY LINE	$-{\it sts}-$	STORM SEWER LINE
•	WATER VALVE		WATER LINE (5/5/2011)
o	POWER POLE		
هي.	POWER POLE WITH GUY WIRE		

AND POST-CAP SURVEYS

CONTOUR LINE (POST-CAP)

Figure 6
Final Cap Thickness Measurements
Doane Lake Source Control Action
MMGL Corp.

SURVEY POINT SHOWING ELEVATION DIFFERENCE BETWEEN PRE-CAP

SURVEY POINT SHOWING SPOT ELEVATION AND DESCRIPTION



CLIENT: BRIDGEWATER GROUP INC.

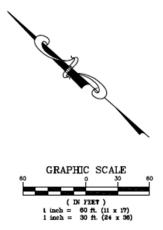


14-087 Dogne Lake,DWG DATE OF PLOT: 9-10-2014

DOANE LAKE CAP DEPTH MAP

LOCATED IN SECTION 13, TIN R1W, W.M. PART OF TAX LOT 700 MAP 01N01W13 PORTLAND, OREGON





LEGEND

(M)	MEASURED DISTANCE	-	POWER POLE
(P)	PLATTED DISTANCE	≎	SIGN/LIGHT POST
(R)	RECORDED DISTANCE	8	HYDRANT
(D)	DEEDED DISTANCE	\circ	TREE - DECIDUOUS
•	FOUND CORNER	*	TREE - CONIFEROUS
0	SET CORNER	-x-	FENCE - CHAIN LINK
	CENTERLINE	—G—	GAS LINE
	PROPERTY LINE	$-{\it sts}-$	STORM SEWER LINE
•	WATER VALVE		WATER LINE (5/5/2011)
٥	POWER POLE	•	Depth Measurement Loation
٩,	POWER POLE WITH GUY WIRE	8" 7"	First Layer (quarry material) Second Layer (topsoil materia
****	SURVEY POINT SHOWING E AND POST-CAP SURVEYS	LEVATION DIFF	FERENCE BETWEEN PRE-CAP
/	CONTOUR LINE (POST-CAP))	

SURVEY POINT SHOWING SPOT ELEVATION AND DESCRIPTION

Figure 7

Initial and Final Layer Thicknesses
Doane Lake Source Control

MMGL Corp.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JANUARY 23, 1990
DALE L HULT
2427
RENEWS 07/01/15

CLIENT: BRIDGEWATER GROUP INC.



14-087 Doane Lake.DWG DATE OF PLOT: 9-10-2014

Appendix A

Addendum to Doane Lake Source Control Measures

Workplan (May 7, 2014)



AARON LERITZ 4500 SW KRUSE WAY; STE 110 LAKE OSWEGO, OR 97035 TEL: (503) 675-5252 FAX: (503) 675-1960 aleritz@bridgeh2o.com

May 7, 2014

Mr. David Lacey Oregon Department of Environmental Quality – Northwest Region 2020 SW 4th Ave, Suite 400 Portland, OR 97201

Subject: Addendum to the MMGL Corp. Doane Lake Source Control Action Work Plan (DEQ ECSI No. 395)

Dear Mr. Lacey,

On behalf of MMGL Corp. (MMGL), Bridgewater Group, Inc. (Bridgewater) is submitting this Addendum to the *Source Control Action* [SCA] *Work Plan* (Work Plan). The draft Work Plan, in the form of Construction Plans and Specifications, was submitted to the Oregon Department of Environmental Quality (DEQ) in December 2013. The DEQ reviewed the Construction Plans and Specifications, and has requested additional submittals and details. The DEQ's requests were communicated in a telephone conversation between the DEQ and Bridgewater on May 1, 2014.

Many of the items that the DEQ is requesting were provided to the City of Portland (City) as part of a Site Development Permit. Therefore, in an effort to streamline this submittal and reduce the duplication of work, the City's Site Development Permit No. 13-188249-000-00-SD (Permit) is enclosed in its entirety (Enclosure 1).

For ease of review, the DEQ's requested items are restated below in **bold** font followed by MMGL's responses in *italics*.

Copy of the National Pollutant Discharge Elimination System (NPDES) 1200-C permit issued by DEQ

A copy of the NPDES 1200-C construction stormwater permit and associated Erosion and Sediment Control (ESC) Plan are provided as part of the Permit (see Enclosure 1).

2. Details of the extent of the grading and capping

MMGL has revised the Construction Plans and Specifications (see Enclosure 2). Figure 4 of the Construction Plans and Specifications shows and describes the extent of the grading and cap design. The Grading and Cap Plan has not changed since the DEQ approved the proposed source control action. See Item 5 below regarding the cap design.

3. Details regarding the extent of the planned excavations

Figures 1, 2 and 3 of the Permit and Sheet 6 of the ESC Plan, show and describe the area of excavation in the City's right-of-way (ROW) (see Enclosure 1). No other excavations are planned.

4. Details of confirmation sampling

MMGL developed a Right-of-Way Excavation Verification Sampling Plan and submitted it with the Permit. This Plan describes anticipated verification sampling and analysis and was approved by the City for work in its ROW. The Plan is provided as Attachment 3 to the Permit (see Enclosure 1).

5. Cap design details

MMGL has refined the cap design details since the development of the original Work Plan (Construction Plans and Specifications) and the Permit. MMGL will grade and cap the site with 6 inches of Knife River, clean, quarry material, followed by 6 inches of clean, imported, sandy loam. Addendum 1 to the Construction Plans and Specifications describing and showing the cap design is provided as Enclosure 2; the cap design specifications are provided in Section 3.5 and shown on Figure 4.

The Knife River material is well-graded gravel with less than 20 percent fines. The material will compact well under dry conditions and provide a porous under layer. This material will be graded and compacted after placement.

The second 6 inches will be sandy loam soil excavated from 800 NE Holiday Street. The soil is currently stockpiled at 10550 SE Reedway at the R.A. Roth Company. The DEQ approved the use of this soil in an electronic mail (email) to MMGL on May 1, 2014. The soil was visually screened for discoloration or staining during excavation and tipping at the stockpile site. Bridgewater also sampled and analyzed the soil. The soil contains no detectable organic hazardous substances and no metals greater than naturally occurring background concentrations or DEQ-USEPA Joint Source Control Strategy (JSCS) soil screening level values. A memorandum presenting the analytical results was prepared and submitted to the DEQ under separate cover. The soil will be visually screened again when it is loaded at the R.A. Roth Company. Soil with any discoloration, staining, or odors will be rejected. This material will be graded and compacted after placement on the site.

As noted above, the site will be graded before cap placement. MMGL will perform a topographic survey of the newly-graded site prior to the placement of the demarcation layer and cap material. This topographic survey will serve as a reference during cap placement. Following capping, MMGL will perform a follow-up topographic survey on the compacted capped area to document that the cap meets the required thickness specification (i.e., 12 inches). If the topographic survey shows that the cap does not meet the minimum thickness, additional soil will be graded and compacted into place followed by a verification survey.

6. Health and Safety Plan

Munitor Construction has prepared and implemented a Health and Safety Plan (HASP) that complies with OSHA 29 CFR 1910.120. A copy of the HASP will be maintained onsite during construction.

Mr. Mr. David Lacey Page 3 May 7, 2014

7. Describe the extent of the planned excavation

The excavation area is described and shown on Figures 1, 2 and 3 of the Permit (see Enclosure 1).

Please contact me with any further questions or comments. I can be reached at 503.675.0297.

Sincerely,

BRIDGEWATER GROUP, INC.

Aaron Leritz Vice President

Enclosures: 1. Site Development Permit (including NPDES 1200-C Permit and ESC Plan)

2. Addendum 1 - Construction Plans and Specifications

cc: Jim Jakubiak/MMGL

Enclosure 1 Site Development Permit (including NPDES 1200-C Permit and ESC Plan)





City of Portland, Oregon

Bureau of Development Services

Site Development

FROM CONCEPT TO CONSTRUCTION

Charlie Hales, Mayor Paul L. Scarlett, Director Phone: (503) 823-6892

Fax: (503) 823-5433 TTY: (503) 823-6868

www.portlandoregon.gov/bds

SITE DEVELOPMENT PERMIT INSPECTION RECORD

24-HOUR INSPECTION REQUEST SERVICE

Buildings (503) 823-7000 TDD (503) 823-6868 Fire Marshal (503) 823-3700

THIS RECORD SHALL BE MAINTAINED IN A CONSPICUOUS PLACE ON THE JOB UNTIL COMPLETION.

PLEASE CALL FOR ALL INSPECTIONS.

APPROVED PLANS REQUIRED ON JOB SITE AT ALL TIMES.

NO WORK OF ANY KIND, ON ANY PART OF ANY BUILDING
OR STRUCTURE REQUIRING INSPECTION SHALL BE
COVERED OR CONCEALED IN ANY MANNER WHATSOEVER,
WITHOUT FIRST OBTAINING APPROVAL.

Site Development Permit

13-188249-000-00-SD

Issued:

11/8/13

6529 NW FRONT AVE

6529 NW FRONT AVE

Const:

Occ:

Applicant: BRIDGEWATER GROUP INC. *AARON LE

Owner: SCHNITZER INVESTMENT CORP Contractor: MUNITOR CONSTRUCTION LLC

IVR #: 3348363

CLEAR AND GRADE NORTHERN PORTION OF SITE CAP SOIL CONTAMINATED WITH HAZARDOUS SUBSTANCES IN ACCORDANCE WITH OREGON DECISION

Address:	6529 NW FRONT AVE	RNumber:	R961130330
IVR Number:	3348363	Permit Number:	13-188249-000-00-SD
General Contra	actor:	Contact Phone:	
Excavation Contractor:		Contact Phone:	

IVR CODE	INSPECTION/COMMENTS	DATE	INSP
200 - Pre-Construction EC +	the problem to see all the second		
205 - EC Interim Compliance Check			EXTENSE HEALT
210 - Permanent EC Measures			
287 - On-Site Stormwater Facility	may be specifically and the second		
522 - Site Grading			
990 - Final - Grading			10 M 5 0 M
999 - Permit Final		TO SHALL SHALL	The state of the state of

This permit shall become null and void without prior notification by the Bureau of Development Services, if such work authorized by this permit is not commenced within 180 days from the date of issuance, or if said work is suspended or abandoned for a period of 180 days from the start of such work.

mit #: 13-188249-000-00-SD

Attachment 1



DOCUMENT SERVICES

MMGL Doane Lake

Source Control Action Plan Narrative Description

Prepared for City of Portland in response to Site Development Permit Application Item #1

September 4, 2013

On October 11, 2010, the Oregon Department of Environmental Quality (DEQ) entered into a Voluntary Letter Agreement (Agreement) with MMGL Corp. (MMGL) (formerly Schnitzer Investment Corp.) to evaluate whether the MMGL Doane Lake Property (Property) located at 6529 NW Front Avenue, Portland, Oregon (ECSI site ID 395), is a source of hazardous substances associated with shredder residue that are present at concentrations that pose an unacceptable risk through transport of these materials to the Willamette River.

Under the agreement, MMGL developed and submitted a Focused Source Control Evaluation Work Plan in December 2010. In accordance with the Work Plan and the Agreement, MMGL performed a Focused Source Control Evaluation (FSCE) to evaluate the potential contaminant pathways to the Willamette River from the Property. The FSCE concluded that stormwater and groundwater were not complete pathways; however windblown dust could be a potential pathway that required further evaluation. As a result, MMGL conducted a source control investigation at the Property.

The results of the source control investigation indicate that windblown dust does not appear to be a significant direct or indirect pathway at this time. However, surface soil sample results detected polychlorinated biphenyl's (PCBs), metals, and bis(2-ethyhexyl)phthalate greater than applicable screening level values (SLVs). Consequently, DEQ was concerned that future use/development of the currently undeveloped site could disturb the site and create a complete pathway via windblown dust/stormwater that would pose a contamination risk to the river. MMGL evaluated potential source control alternatives to address these concerns.

DEQ develop a source control decision documents to memorialize the results of the source control evaluation and investigation and the any other information that was used to make the source control decision. This source control decision document includes a consolidation of the information provided in MMGL's September 13, 2011 FSCE Report (Bridgewater Group, Inc., 2011) and the April 4, 2012 Addendum to the FSCE Report (Bridgewater Group, Inc., 2012). MMGL conducted the FSCE in accordance with the Portland Harbor Joint Source Control Strategy (JSCS) and DEQ's Guidance for Evaluating the Stormwater Pathway at Upland Sites (2010). It is MMGL's understand that DEQ has provided the City with a copy of the Source Control Decision Document. That document should be referenced for detailed analysis of the Doane Lake site.

Based on the results of the FSCE summarized in the decision document, DEQ has selected, cap in place and institutional controls as the preferred source control measure. The purpose of the site development permit is to gain authorization from the City of Portland to implement the source control actions.

13-188249-50

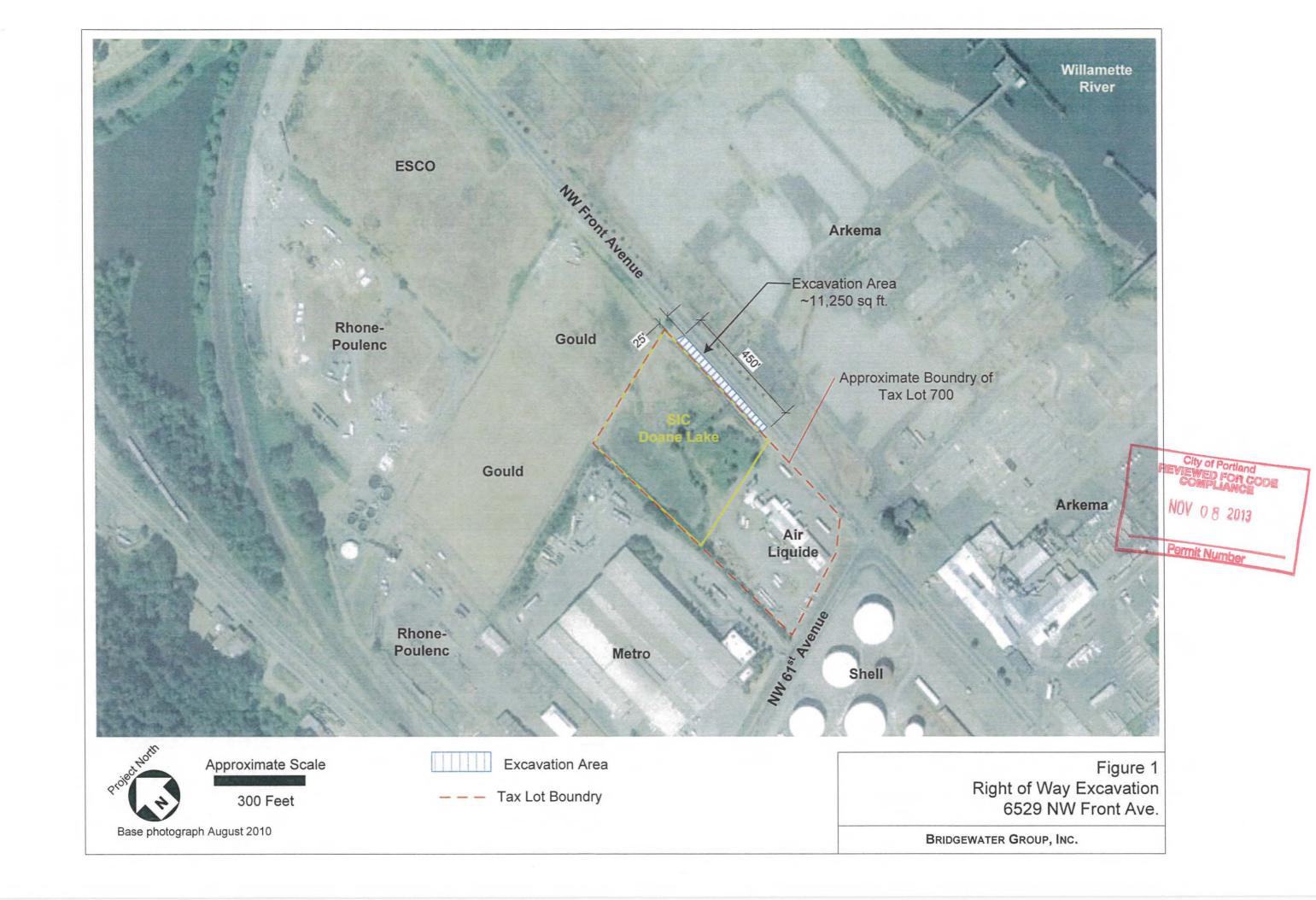
Attachment 1

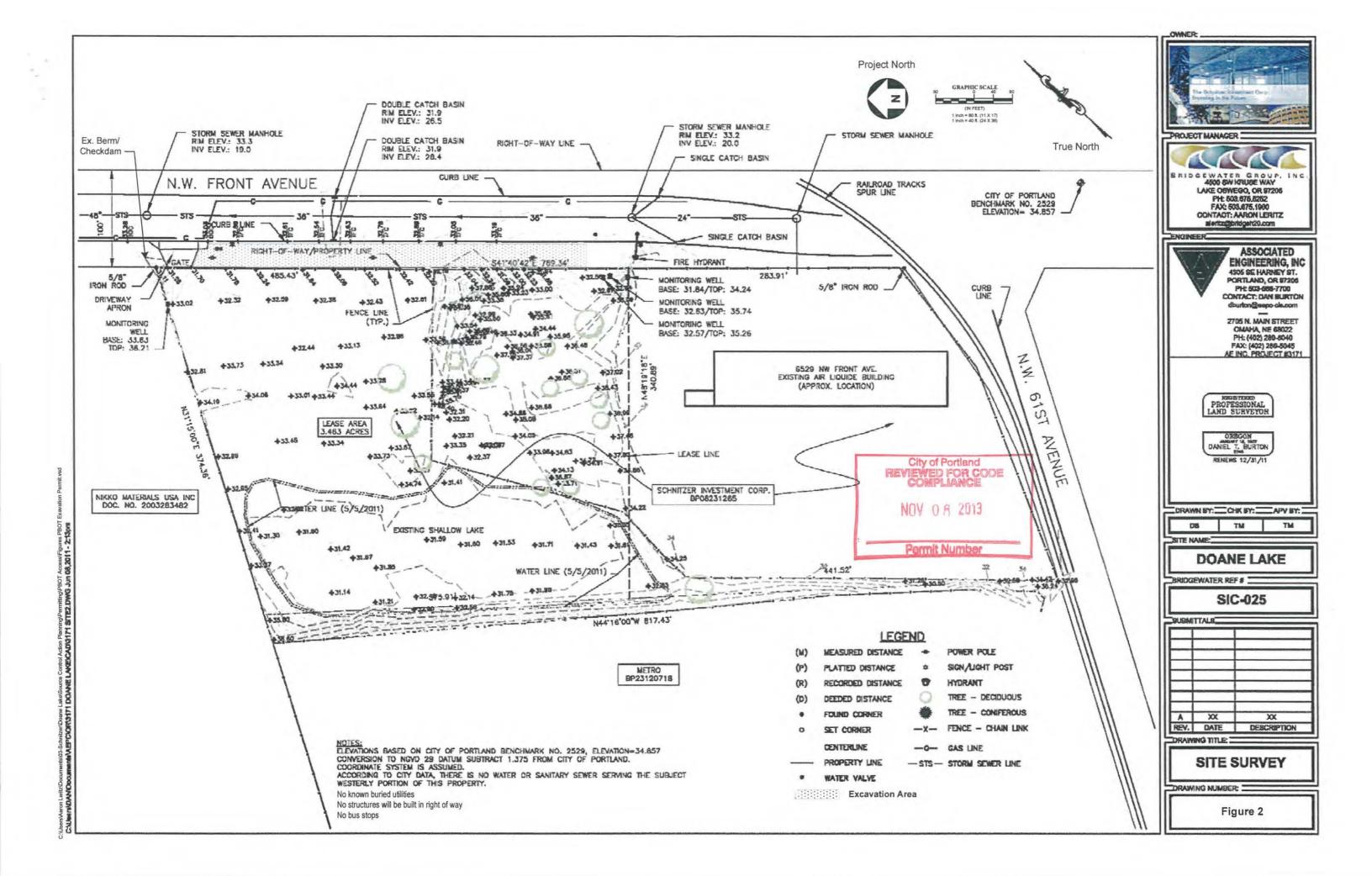
The source control actions consist of excavating soil from the City of Portland parking strip "Parkway" and consolidating it on the Site, grading the site, and capping a portion of the site with clean imported top soil where site constituents exceed the applicable screening values. A description of the scope of work is provided in Section 1.1 Description of the attached project specifications.

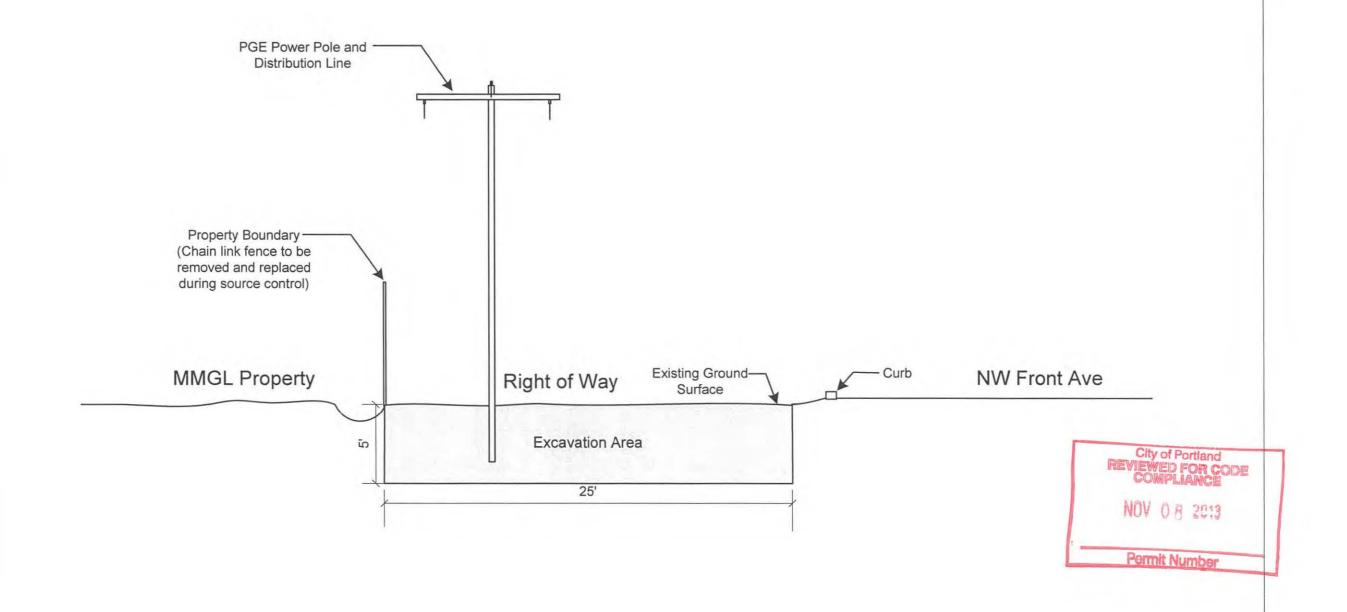
Stormwater Management

The existing Doane Lake Remnant is not being modified; it will continue to accept the site stormwater as it has historically. A stormwater swale (ditch) currently exists on the property line/fence line adjacent to the City of Portland right of way. Subsequent to grading the entire site for property drainage, the existing swale will be re-graded to provide onsite stormwater erosion control and ensure that stormwater continues to be conveyed to the Doane Lake Remnant. The swale was designed in accordance with DEQ's stormwater erosion control standards as shown on Sheet 6 of the Erosion Control Plan Drawing Set.

The site has retained stormwater and will continue to retain 100 percent of the stormwater. There will be no connect to City of Portland stormwater management systems.







Notes:

- 1. No known buried utilities
- 2. Excavated soil will be relocated to MMGL property

Figure 3

Excavation Area Profile View MMGL Corp. Doane Lake Property

BRIDGEWATER GROUP, INC.

Attachment 2

DOANE LAKE SOURCE CONTROL ACTIONS

SEP 17 2013

BDS DOCUMENT SERVICES

Revision: September 13, 2013 REVISED: SEE

SITE CONTROLS, EARTHWORK, AND SOIL CAP ADDENDUM 1

PART 1 - GENERAL

DATED MAY 6, 2014

1.1 DESCRIPTION

- General: The Doane Lake site "Site" is an undeveloped parcel covering approximately 3.5-acres located A. at 6529 NW Front Ave. in Portland, Oregon (Figure 1). The Site is located on property owned by MMGL Corp "MMGL" (formerly Schnitzer Investment Corp.). A portion of the Site is leased to Air Liquide. The site access is on NW Front Avenue. The Site is relatively flat as shown by the topographic map (Figure 2). The work area is also shown in Figure 2. MMGL entered into a voluntary agreement with the Oregon Department of Environmental Quality (DEQ) to perform a source control evaluation and investigation that has led to the source control actions at the Site. Investigations suggested that Polychlorinated Biphenyl's (PCBs), cadmium, lead, mercury, and zinc "Site Constituents" are present in site soils in excess of the established site screening values. All work must be done within 90 days of MMGL receipt of permits issued by the City of Portland.
- Source Control Action: The purpose of the source control action is to prevent soils that have been B. impacted with Site Constituents to become windblown or erode and potentially deposit on adjacent property or NW Front Avenue where they could be entrained in stormwater. The source control actions consist of excavating soil from the City of Portland parking strip "Parkway" and consolidating it on the Site, grading the site, and capping a portion of the site with clean imported top soil where Site Constituents exceed the applicable screening values. The excavation area is nominally 450 feet by 25 feet by 5 feet. The cap area is nominally 76,000 square feet or approximately 2,815 cubic yards. The source control action tasks to be performed include:
 - Install erosion control per the 1200-C permit and Erosion Control Plan (Attachment 1). 1.
 - Remove approximately 485 linear feet of chain link fence on NW Front Avenue side of Site and 413 2. linear feet of chain link fence on the Site (Figure 3).
 - Clear and grub the Site including removal of approximately 16 trees ranging in diameter from 4-3. inches to 14-inches measured at 42 inches from the ground.
 - Excavate soil from Area 1 approximately 2,100 cubic yard. The excavation will be performed in accordance with the City Code 17.24. The excavation will proceed in one foot increments to allow inspection and evaluation to determine if additional excavation is necessary. Portions of the excavation will remain open to allow for verification sampling results to be obtained. The contractor should allow a 24-hour turn-around-time for laboratory result to be obtained. The contractor should explain their approach for minimizing stand-by time. The assumed excavation depth is 5 feet below ground surface (bgs). MMGL's understanding is there are no buried utilities in the Parkway; however, a "one-call" utility location must be conducted by the contractor to confirm this. Excavated materials will be consolidated in Area 2 (Figure 4).

7 1885Ad- 20

NOTE: The will be notified if any of the following conditions are encountered. The contractor must stop work and call the MMGL site representative Aaron Leritz at 503-703-9690. If Mr. Leritz is not available the contractor must call John O'Donovan/City of Portland at 503-823-7881.

- a. Unanticipated soil or site conditions are encountered
- b. The excavation is encroaching on NW Front avenue and shredder residue is still present
- The excavation could compromise the structural integrity of NW Front Ave or any other City of Portland infrastructure
- d. If groundwater is encountered.
 5. Backfill and compact the Area with clean backfill and compact per Section 3.5 of this specification and City Code 17.24.
- 6. Grade site per grading plan Figure 4.
 7. Construct stormwater swales per grading plan. Figure 4.
- 8. Install demarcation layer in Cap Area (Area 2). The purpose of the demarcation layer is to identify the boundary between the soil with Sity Constituents and the soil day. The demarcation layer material must be approved by MMGL or MMGL's onsite representative. Examples of demarcation include woven geotextile fabric, plastic construction fencing, or similar materials that will not substantially degrade underground.
- Cap Area 2 with a minimum of 12 inches of compacted topsoil and hydroseed. The cap area is nominally 76,000 square feet. Compaction will be done with the tracks of the grader. Hydroseed will meet Department of Transportation Specifications.
- 10. Plant trees per the Urban Forestry Tree Removal and Mitigation Permit and Plan (Figure 5).
- 11. Install approximately 485 linear feet of chain link fence in the location shown on Figure 4. The fence will be 6 foot tall chain link fencing with a top rail and an upper row of barbed wire... Install two access gates, Gate 1 and Gate 3 shown on Figure 4. The fence and gates will be installed per the fence manufacturer's specifications.

1.2 REFERENCED STANDARDS

- A. American Society for Testing and Materials (ASTM)
 - 1. D422-63(1998) Standard Test Method for Particle Size Analysis of Soils
 - 2. D4318-00 Liquid Limit, Plastic Limit and Plasticity Index of Soils
 - D1557-00 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort
 - 4. D2922-01 Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods
 - 5. D3017-01 Standard Test Methods for Water Content of Soil and Rock in Place by Nuclear Methods

1.3 DEFINITIONS

- A. Owner: MMGL, Corp.
- B. Owner's Representative: Bridgewater Group.
- C. Engineer: TRT Engineering, LLC.

1.4 JOB CONDITIONS

Attachment 2

- A. The Contractor represents that it has had the opportunity to visit the Site to become familiar with the quantity, location, and character of existing materials and conditions on the Site. The Contractor agrees that the premises were made available prior to submission of bids for whatever inspection and tests the Contractor deemed appropriate. The Contractor agrees that the work plan and any other requested reports were made available for supplication of the conditions. The Contractor assumes full responsibility for compliance with an applicable health and safety requirements as mandated in city, county, state, and federal statutes.
- B. The concentration of Site Constituents is defined in the Source Control investigation Report. The report will be provided at the request of the contractor. Tables showing Site Constituent concentrations are provided in Attachment 2.
- C. Site Access:
 - MMGL Access to the Site will be granted by MMGL. The contractor must maintain a copy of the Site Development Permit at the Site at all times.
 - NW Front Avenue Parkway Access to the NW Front Ave Parkway will be granted in the Site Development Permit.
- D. Permits:
 - 1. Owner's Representative will obtain the following permits:
 - a. City of Portland Site Development Permit
 - b. City of Portland Urban Forestry Tree Removal and Mitigation Permit
 - c. Oregon DEQ 1200-C Construction Erosion and Sediment Control Permit.

 The Contractor will be required to meet the conditions of these permits. When obtained, MMGL will provide the contractor the permits for review. MMGL and the Contractor will mutually agree on how the conditions of the permit will be met and if the conditions results in a changed condition.
 - Contractor shall obtain all other required permits including, but not limited to, landfill disposal profile, and use of temporary utilities.
- E. Allowable work hours are 8:00 am to 5:00 pm seven days per week unless otherwise agreed upon.

1.5 UTILITY LOCATE/CLEARANCE

A. The Contractor shall be responsible for verifying all subsurface, surface, and overhead utility locations prior to commencing work. If required, the contractor will be responsible for contacting Portland General Electric (PGE) and implementing the requirements specified by PGE to protect power poles between the Site and NW Front Avenue.

1.6 TEMPORARY FACILITIES

- A. Temporary Utilities No utilities will be furnished by Owner, Owner's Representative, or Engineer. Contractor is responsible for obtaining any utilities necessary to complete the work at no added cost. Contractor shall be responsible for any necessary approvals to obtain temporary utilities.
- B. Sanitary Facilities The Contractor shall provide and maintain sanitary facilities that meet the requirements of Oregon Revised Statutes (ORS) 654.150 and other applicable State and local health

For Construction Bidding Only

regulations. The Contractor shall bear the costs that may be incurred in complying with ORS 654.150 and the rules adopted pursuant thereto.

1.7 SAFETY

- A. The Contractor shall be responsible for the safety of all Contractor personnel, including subcontractors that perform work at the Site. REVISED: SEE
- B. Health and Safety Plan Following contract award, the Contractor shall prepare and submit to Owner's Representative a written health and safety plan [NSP] that covers all Contractor personnel, including subcontractors that will perform work at the Site and that obtains compliance with 1910.120, subdivision 2/H, of the Oregon Administrative Rules. TED MAY 6, 2014

1.8 NOISE CONTROL

A. The Contractor shall comply with local noise control regulations.

1.9 SOLID WASTE MANAGEMENT

A. The Contractor shall be solely responsible for determining the proper disposition of all solid waste, including documentation showing that the solid waste and recyclables are not regulated as hazardous waste in accordance with state and federal regulations.

B. Receptacles:

- Discarding of aerosol cans, used oil, paints, solvents, fluorescent light tubes, or any hazardous waste into a receptacle is strictly prohibited.
- All recyclable and general solid waste hauled out shall be secured prior to leaving the work site so
 that no waste material blows out, falls out, or leaks out during transportation to the designated offsite location.
- C. The Contractor shall dispose of waste material off the Site and in accordance with applicable state, federal, and local regulations.
- D. Burning or burying of waste material is not permitted.
- E. Disposal of waste material within the area cleared, or a river, stream, wetland, or other waterway or waterfront is not permitted. If any waste material is dumped in unauthorized areas, the material shall be removed and the area restored to a condition approximating the adjacent undisturbed area.

1.10 STORAGE AND PROTECTION OF MATERIAL AND EQUIPMENT

- A. The Contractor shall protect materials and equipment from damage, pilfering, etc.
- B. Upon completion of the work, the Contractor shall remove unused materials and equipment and restore the area to original condition, including any grading of fill necessary to restore drainage patterns and surface smoothness.

Attachment 2

1.11 RUNOFF SEDIMENT CONTROLS

- A. At all times, the Contractor shall maintain erosion and sediment controls to prevent the entry of soil, sediments, dust, or other materials from entering any storm drainage collection area, conveyance, or drain inlet.
- B. Prior to any site work, Contractor spell install, at a maintum erosor controls indicated in the Sediment and Soil Erosion Control Plan per the Oregon DEQ 1200-C permit. The erosion controls shall remain in place until the surface finish is fully established (p.g., gravel surfacing, yegetation, etc.). At such time, Contractor shall remove remaining erosion controls.
- C. No stormwater will discharge offsite to adjacent properties on City of Contand Sonvey 200 system.

1.12 DUST CONTROL

A. The Contractor shall minimize and abate the creation of nuisance dust conditions during earthwork or equipment movement activities.

1.13 EQUIPMENT DECONTAMINATION

- A. All equipment shall be decontaminated prior to arriving at the Site and prior to leaving the Site during demobilization. The Contractor shall erect a temporary equipment decontamination station at a location determined by Owner's Representative.
- B. Equipment leaving the Site such as haul trucks, vactors, or Contractor vehicles shall be inspected prior to leaving the Site for evidence of visual contamination on tires/wheels or other surfaces. If visible evidence of contamination is present, the equipment shall be decontaminated prior to leaving the work area.

1.14 TRAFFIC CONTROL AND PROTECTION OF THE WORK AND FACILITIES

- A. Before starting work, the Contractor shall provide and install any signs and/or barricades necessary for protection of the work. The Contractor shall install and maintain adequate warning signs and lighted barricades to protect property and personnel in the work area. Barricades shall be weighted or anchored to prevent overturning from wind.
- B. The work shall be carried out at all times in a manner causing a minimum interference with traffic on either public right-of-way or private roadways. The Contractor shall provide necessary barricades, warning signs, lights, and flag person(s) to expedite the movement of traffic.
- C. The Contractor shall be responsible for assuring that existing sidewalks, curbs, power poles, railroad tracks or other structures are not undermined or damaged by sloughing materials into the excavation. The Contractor shall support the excavation side walls in Area 1 as necessary to prevent undermining of NW Front Avenue. Any repair or restoration of the existing sidewalk, curb, etc. shall be at the sole expense of the Contractor.

1.15 ENVIRONMENTAL PROTECTION MEASURES

- A. All construction equipment and vehicles shall be maintained in proper working conditions with no leaking fluids. The Contractor shall inspect the equipment at least daily and immediately clean up any spilled or leaking fluids.
- B. All diesel-power, off-road vehicles and equipment used on the project for three consecutive days or more shall be fueled with ultra low-sulfur diesel (ULSD). This includes, at a minimum, vehicles with engine horsepower (HP) ratings of 50 HP and above, and internal combustion engines used to power generators, compressors, and similar equipment.
- C. The Contractor shall limit idling of vehicles and equipment during periods of nactivity.
- D. All work shall be performed and all steps taken to prevent interference or disturbance to wildlife. $DATED\ MAY\ 6,\ 2014$

1.16 MEASUREMENT AND PAYMENT

A. Incidental Work – Consider work not listed, but necessary to complete the work, as incidental. Each item has incidental work associated with it. Some of the incidentals may be identified. However, the list is not complete. This does not relieve the Contractor from the responsibility for completing the incidental work. Incidental work includes, but is not limited to: hauling, transporting, grading, compacting, and other tasks necessary for the work specified.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Unless otherwise specified, the Contractor shall provide all required materials for the project. Materials shall be of the quality, size, shape, and gradation as specified in this part.
- B. Imported rock material shall be clean, free-draining, granular material obtained from a commercial pit in natural deposits of igneous or metamorphic rock. Individual particles shall be free from all objectionable coatings. The material shall contain no organic matter, nor soft friable particles in quantities considered objectionable.
- C. The following activities shall be performed by the Contractor, as specified below, to ensure that imported materials are natural, native, virgin materials and free of contaminants (e.g. volatile organic compounds, semi-volatile organic compounds, poly-chlorinated biphenyl's, petroleum hydrocarbons, cyanide, pesticides, dioxins/furans, or inorganic materials such as metals or metalloids that are above State of Oregon typical background concentrations). The imported materials must also be free of debris or recycled materials and meet construction specifications. All submittals specified below shall be to the office of Owner's Representative.
 - 1. A characterization of any and all imported material shall be performed by the Contractor prior to any on-site placement. The characterization will include a laboratory analysis for the items listed in 2.1C above of a borrow source sample and a site inspection.

Attachment 2

- Source Identification: The Contractor shall provide documentation of the origin of borrow source 2. materials and laboratory analysis with detection limits low enough to meet the Joint Source Control Strategies screening levels.
- The Contractor shall provide a 1-gallon sample of each import material. The Contractor shall 3. ensure that the samples are representative of each material to be imported. Samples shall be provided at least 5 business days before the materials represented by the samples are delivered to the Site.
- Testing, Reporting, and Certification The Contractor shall provide pror test results (completed within the last 90 days) or shall test samples of materials to be imported that demonstrate 4. compliance with these specifications.
- The Contractor shall provide the sults of sults 5. identifying the following: DATED MAY 6, 2014
 - Source of samples a.
 - Sampling dates b.
 - Sampling locations C.
 - Contractor's certification that the samples tested and the results provided are representative of materials that shall be delivered to the Site
- Inspection of Materials at the Site: Truckloads of imported material shall be visually inspected by 6. the Contractor upon delivery.
- The Contractor shall collect certified tickets from the borrow source for each load of material 7. brought to the Site. The tickets shall be supplied to Owner's Representative.
- Owner's Representative maintains the right to reject any materials that have been determined to be 8. substandard for any reason. In the event of rejections, it shall be the responsibility of the Contractor to remove all stockpiles of rejected material from the Site.

2.2 CRUSHED ROCK

Clean, durable crushed rock meeting the requirements of ODOT Standard Specifications Section Α. 02630.11 - Open-Graded Aggregate and section 2.1C of this specification.

2.3 TOPSOIL

- Clean imported topsoil meeting the requirements of ODOT Standard Specifications Section 01040.14 -A. Topsoil and section 2.1C of this specification.
- 2.4 Seed, Fertilizer, Mulch, Tackifier
 - Provide materials in accordance with ODOT Standard Specifications Section 01030.13 through 01030.16. A.
 - Seed mix shall be specified by the Owner's Representative. B.

PART 3 - EXECUTION

3.1 GENERAL

- A. Owner's Representative will designate the disposition and determine the suitability of products.
- B. Owner's Representative will stake the work. The right is reserved to make minor adjustments or revisions in lines or grades, if found necessary as the work progresses. The Owner will provide a surveyor that will be available during the work.
- C. The Contractor shall suspend earthwerk when satisfactory results cannot be obtained because of rain, freezing weather, or other unsatisfactory conditions.
- D. Hauling equipment shall be routed around or away from areas of soft or yielding subgrade.
- E. The Contractor shall furnish and maintain earth-noting equipment in attitiactor condition and experate such equipment as necessary to control uniform density, section, and smoothness of grade.

3.2 SITE CLEARING

A. General

- 1. The work under this section shall consist of providing all work, materials, labor, equipment, and supervision necessary to clear and grub the Site of existing vegetation as required in these specifications and on the drawings.
- 2. Confine clearing and grubbing operations to the limits as indicated on the drawings. In the absence of such a designation on the drawings, confine work to the minimum area reasonably necessary to undertake the work as determined by the Owner's Representative. Clearing and grubbing operations shall not extend past the property line or easement line without prior approval of the Owner's Representative.
- 3. To minimize erosion, limit heavy equipment travel only to that necessary to complete clearing and grubbing.
- 4. Repair damaged erosion control features immediately.

B. Onsite Burial of Materials

1. Onsite burial of materials from off-site sources in borrows pits or other locations are not permitted.

C. Offsite Disposal of Materials

- 1. Clearing and grubbing debris shall be disposed of at facilities designed to accept the material that is being disposed. Follow all local, state and federal regulations.
- Clearing and grubbing vegetation free of topsoil may be handled assuming free of chemical contamination.
- Grubbed vegetation commingled with soil shall be disposed of as contaminated materials in a Subtitle D landfill in accordance with Section 3.3.

3.3 EXCAVATION

A. Excavate to the lines/grades shown on the drawings.

Attachment 2

- B. Excavate areas to provide positive drainage whenever possible.
- Remove excess and spoil material from the Site in a timely fashion.
- D. Do not excavate below design grades without prior authorization by the Owner's Representative.
- E. Excavations greater than 2 feet in depth shall be surrounded with temporary chain link fencing whenever there is no activity at that portion of the Site.
- F. Locate backfill and spoil piles in accordance with OSHA requirements, and so that it does not interfere with public travel, adjacent landowners, or other construction activities.
- G. Contractor shall be responsible for control of groundwater sufficiently to complete the work and in accordance with Section 3.4. Excavated materials containing free water shall be placed on a dewatering pad constructed to allow collection of liquids draining from the excavated materials. At a minimum the dewatering pad shall be lined with plastic sheeting.
- H. Excavated material shall be consolidated and graded in Area 2. If excavation materials require off-site disposal, the Contractor is responsible for obtaining the landfill approval for disposal.

3.4 DEWATERING

A. General

- Dewatering is not anticipated. However should it be required it will be performed in accordance with this section.
- Before dewatering is performed the contractor will notify MMGL Site Representative Aaron Leritz 503-703-9690.
- 3. The work under this section shall consist of providing all work, materials, labor, equipment, and supervision necessary to provide for control of water. Control of water shall consist of the design, furnishing, installation, operation, maintenance and removal of a groundwater control system(s) to achieve proper completion of all work.
- 4. Contractor shall size and install a dewatering system as required to construct the project. The Contractor shall be fully responsible for disposal of all water and oil from the excavation in an approved manner at no additional cost.
- 5. Conform to all Federal, State and local regulations regarding groundwater drawdown and discharge.

B. Sump Dewatering

- 1. Install collection sump in the low point of the excavation.
- Provide filter material, trash screens, and/or other devices around pump or intake to avoid pumping of sediment. Provide sediment tanks, skimmers, filters, and/or flocculants as required for sediment control and oil removal.

C. Water Discharge

- No water will be discharged to the City of Portland sanitary or stormwater sewer systems.
- 2. If sanitary or stormwater discharges are needed, the contractor will contact MMGL Site Representative Aaron Leritz 503-703-9690.

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3. The Contractor will be required to obtain permits for discharge of water to the City of Portland sanitary sewer or facility permitted to accept the water.

3.5 PLACING AND COMPACTING MATERIAL

- A. Place fill type as shown on the drawings to the lines/grades shown on the drawings.
- B. Do not place fill on areas consisting of organic soil, debris, or other soft and yielding material. For caps, clear vegetation to the ground surface. Grubbing is not required prior to placement of cap material unless grading is required.
- C. Place fill in horizontal lifts having thickness Estown STEP. SEE
- D. Compact fill material as required by Table 1.

 ADDENDUM 1
- E. Moisture condition fill material as necessary to achieve density required for given use.
- F. Place and compact backfill so as to min mice settlement and avoid dangage to wall, utilize the settlement and avoid dangage to wall.
- G. It is the responsibility of the Contractor to provide all necessary compaction equipment and other grading equipment that may be required to obtain the specified compaction. Compaction of controlled backfill by travel of grading equipment will not be considered adequate for uniform compaction. Hand guided vibratory or tamping compactors will be required whenever controlled backfill may be placed adjacent to walls, footings, columns or in confined areas.

Table 1

Location	Required Material	Maximum Com- pacted Lift Thickness	Minimum Proctor Compaction	Compaction Test- ing Frequency
Area 1	Crushed Rock to with- in 1 foot of surface Top Soil upper 1 foot	9 in.	92% Modified	Every 500 sq. ft., Top Lift Only
Area 2	Topsoil	12 in.	None	N/A

3.6 GRADING TOLERANCES AND FINISH

- A. Rough grade within required subgrade lines and grades:
 - 1. Vertically: ± 0.2 Ft.
 - 2. Horizontally: ± 0.5 Ft.
- B. Fine grade required subgrade lines and grades:
 - 1. Vertically: ± 0.05 Ft.
 - 2. Horizontally: ± 0.5 Ft.

Attachment 2

- 3.7 SEEDING
 - A. Conduct seeding in accordance with ODOT Standard Specifications Section 01030.40 through 01030.44, 01030.48(e), and 01030.49. Perform the work in accordance with Water Quality and Permanent Seeding.
 - B. Maintain seeding in accordance with ODOT Standard Specifications Section 01030.60 through 01030.62. Mowing is not required.
- 3.8 CLEANUP
 - A. Level off all disturbed areas and clean up all areas used for the storage of materials or the temporary deposit of excavated earth. Remove all surplus material, tools, and equipment.
 - Thoroughly clean all drainage ways Aas, parking forts, sidewills, and vived surfaces and remove and dispose of all debris and mud.

 DATED MAY 6, 2014

END OF SECTION

Doane Lake Source Control Action

Bid Sheet

Ite	em from 1.1.B	Cost
1.	Install erosion control	
2.	Remove approximately 485 linear feet of chain link fence	
3.	Clear and grub the Site	
4.	Excavate soil from Area 1 approximately 2,100 cubic yard. Unit Cost for Soil Relocation from Area 1 SA ea 2: S cubic yard¹	
5.	Backfill and compact the Area 1 DEFINDUM 1	
6.	Grade site per grading planting plantin	14
7.	Construct stormwater swales per grading plan. Figure 4.	
8.	Install demarcation layer in Cap Area (Area 2).	
9.	Cap Area 2 and hydroseed. The cap area is nominally 76,000 square feet. Unit Cost for Backfill/cubic yard	
10.	Plant trees per the Urban Forestry Tree Removal and Mitigation Permit and Plan	
11.	Install approximately 485 linear feet of chain link fence.	
As calcu	Total Cost lated on by onsite surveyor provided by MMGL.	
5.55.5	and an ay anothe editiveyor provided by ivilving.	
	Company:	
	Name:	
	Signature	
	Date:	

Attachment 3

BES Pollution Prevention:
Stockpiles of contaminated soils shall be underlain and covered with an impermeable layer or sheeting to control leachate from the stockpile and prevent storm water from coming into contact with the stockpile

MMGL Doane Lake Source Control Action Plan

Right of Way Excavation Verification
Sampling Plan

Prepared for City of Portland in response to Site Development Permit October 9, 2013

This verification sampling plan will be implemented at the Doane Lake site during the excavation of the City of Portland Right of Way. The excavation details and requirements are provided in the Doane Lake Source Control Actions Site Controls, Earthwork, and Soil Cap specification section 1.1.B.

The excavation will precede using visual indications until all visible signs of shredder residue are removed. Verification samples will be collected on the north, east, and south side walls and floor of the Excavation. See Figure 1 attached.

East side wall samples will be collected 1 foot below ground surface (bgs) and 4 feet bgs. Samples will be collected every 100 feet starting 25 feet from the north side of the excavation (Figure 1).

One vertical series of samples (e.g. surface, 1 feet bgs, and 4 feet bgs) will be collected from the north and south side walls from the approximate middle of the wall.

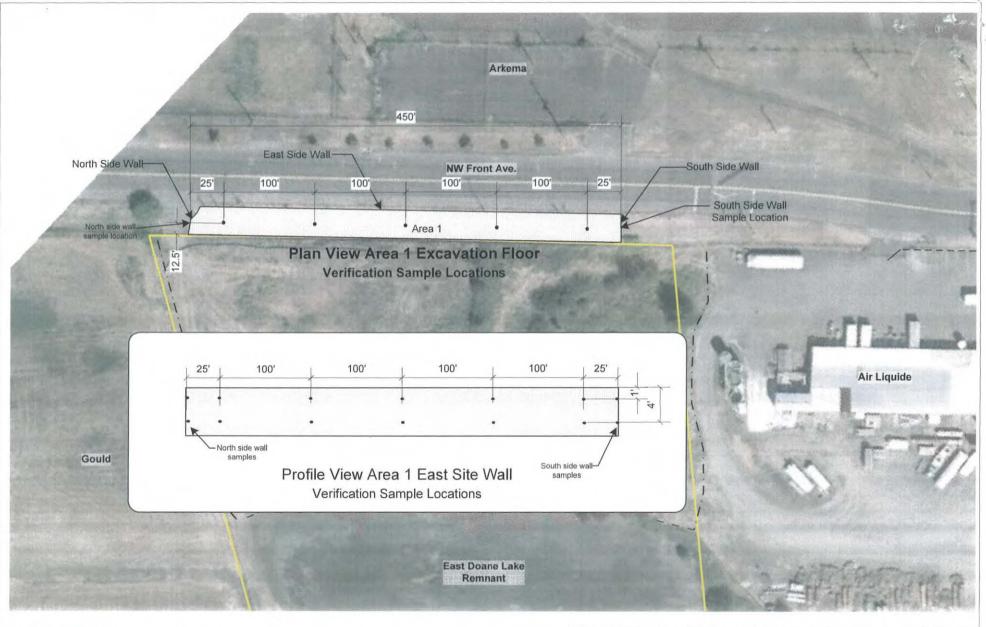
Floor samples will be collected on 100 foot centers starting 25 feet from the north end of the excavation. (Figure 1)

The planned excavation is approximately 450 feet long, 25 feet wide and 5 feet deep. As a result, approximately 19 samples will be collected representing approximately 2,500 square feet of surface area.

Samples will be submitted to Apex Laboratory for rush PCB Aroclors, cadmium, lead, mercury, and bis(2-ethylhexyl)phthalate (BEHP) analysis. PCB analysis will be performed using EPA Method 8082 with low detection limits, metals analysis will be performed using EPA 6010/7000 series, and BEHP analysis will be performed using EPA Method 8270. Samples results and chain of custody forms will be forwarded to Mr. John O'Donovan with the City of Portland's Contaminated Site Assessment Program for review and approval. John O'Donovan's contact information is 53-823-7881 or john.odonovan@portlandoregon.gov.

If soil impacted by shredder residue is left in the right away that cannot be removed (e.g. around the power poles) MMGL will collect and analyze representative soil samples for PCBs and Resource Conservation and Recovery Act (RCRA) eight metals from the soil that is left in place in the right of way. If the total concentrations of RCRA eight metals detected in the soil sample collected from the soil left in the right of way are greater than the 20 times the toxicity characteristic leachate procedure (TCLP) hazardous waste thresholds, then MMGL will request follow-up TCLP analysis on the constituent(s) that exceeded the 20Xs concentration. Typically, one sample per 100 cubic yards is representative for a landfill and therefore would be the basis for MMGL's representativeness assessment to determine the number of soil samples that will be collect from soil that have to remain in place in the right of way.

18-18824950





Not to Scale

Verification sample location

Figure 1

Verification Sample Plan Doane Lake Source Control Action Permit # 13-188249-000-00-SD

BRIDGEWATER GROUP, INC.

Base photograph August 2010



Department of Environmental Quality

Northwest Region Office

2020 SW Fourth Avenue, Suite 400 Portland, OR 97201-4987 (503) 229-5263

FAX (503) 229-6957 TTY (800) 736-2900

RECEIVED SEP 17 2013

BDS

DOCUMENT SERVICES

September 11, 2013

Lilly Joseph MMGL Corporation 1121 SW Fifth Ave Ste 2250 Portland, OR 97204

Re:

Construction Storm Water Control Permit

EPA Number: ORR10D546 File Number: 123416

Site: Doane Lake Source Control Action

County: Multnomah

Dear Lilly Joseph:

The Oregon Department of Environmental Quality has received your application and fees and is approving coverage under the National Pollutant Discharge Elimination System 1200-C Construction Stormwater Discharge permit. Please be aware that you will be assessed an annual fee for each additional year of construction activity as long as this permit is in effect.

This statewide Permit term is five years, beginning December 1, 2010, and expiring November 30, 2015, regardless of when you apply for coverage within the 5 year period.

Important Permit Provisions

Please review your 1200-C Permit copy carefully. For all projects the permit:

- prohibits visible or measurable quantities of sediments from leaving the construction site and entering
 directly into surface waters, or to conveyance systems that discharge to surface waters, and prohibits
 violations of the state's in-stream water quality standards. If this occurs, permit registrants are required to
 take corrective action to stop the discharge to surface water and submit a report outlining the corrective
 actions taken.
- requires permit registrants to implement a Sediment and Erosion Control Plan that meets new best management practices.
- requires daily inspections of erosion control measures when runoff is occurring.
- requires permit registrants to record all inspections and to keep all records up-to-date and on site.
- requires all erosion control measures remain in place through the duration of construction project.

For construction projects involving 5 acres or more:

 Permit applications and Erosion and Sediment Control Plans will be subject to a 14-day public review period.

For construction projects that discharge to 303(d) listed water bodies for turbidity (water clarity), or sedimentation, or to water bodies covered under state Total Maximum Daily Load pollution limits:

 Permit registrants must implement additional best management practices on the site to treat, control, or prevent sediment discharges to "impaired" water bodies.

Additional listed water body and affected river mile information is available at DEQs website at: www.deq.state.or.us/WO/assessment/assessment.htm





Legal Owner Responsibilities

If legal responsibility shifts to another party during project development, a Transfer Request form and fees must be submitted to DEQ to transfer the permit to the new responsible party.

Coverage Termination Process

Be sure to submit a Notice of Termination Request Form to the regional DEQ office when your construction activity is completed. If a Termination Request Form is not received by DEQ, **you will be billed** an annual fee for each additional year your permit remains in effect.

Permit coverage may be terminated when the following conditions are met:

- All construction activities authorized by this permit have been completed -
 - The site is stabilized, including landscaped with vegetation growing, and no exposed soil is present,
 - No further grading or soil disturbances occurring, and
 - o Temporary erosion and/or sediment controls have been removed and properly disposed.

For complete details on termination, including termination for a common plan of development or sale, please see permit condition D.3.

Finally, this permit does not authorize excavation or fill in state waterways, including wetlands, and does not replace the requirement for receiving authorization to do this type of work under Section 404 of the Clean Water Act.

Please check the DEQ website at http://www.deq.state.or.us/wq/stormwater/stormwater.htm for forms or information. If you have any questions about this permit, please contact Dennis Jurries (503) 229-5937 in our Northwest Region Office or e-mail at jurries.dennis@deq.state.or.us.

Sincerely,

3- 188540-21

Dennis Jurries, PE

DEQ NWR Storm Water Engineer

Denne form

Enclosure cc: File

SEE APPENDIX B FOR A COPY OF THE 1200C CONSTRUCTION STORMWATER PERMIT AND EROSION AND SEDIMENT CONTROL PLAN. IT HAS BEEN REMOVED FROM THIS APPENDIX TO LIMIT FILE SIZE. IT WAS HOWEVER SUBMITTED TO AND APPROVED BY DEQ AS PART OF THE WORK PLAN.

Enclosure 2 Addendum 1 - Construction Plans and Specifications

Addendum 1

DOANE LAKE SOURCE CONTROL ACTIONS

May 6, 2014

SITE CONTROLS, EARTHWORK, AND SOIL CAP

PART 1 - GENERAL

1.1 DESCRIPTION

- A. General: The Doane Lake site "Site" is an undeveloped parcel covering approximately 3.5-acres located at 6529 NW Front Ave. in Portland, Oregon (Figure 1). The Site is located on property owned by MMGL Corp "MMGL" (formerly Schnitzer Investment Corp.). A portion of the Site is leased to Air Liquide. The site access is on NW Front Avenue. The Site is relatively flat as shown by the topographic map (Figure 2). The work area is also shown in Figure 2. MMGL entered into a voluntary agreement with the Oregon Department of Environmental Quality (DEQ) to perform a source control evaluation and investigation that has led to the source control actions at the Site. Investigations suggested that Polychlorinated Biphenyl's (PCBs), cadmium, lead, mercury, and zinc "Site Constituents" are present in site soils in excess of the established site screening values. All work must be done within 90 days of MMGL receipt of permits issued by the City of Portland.
- B. Source Control Action: The purpose of the source control action is to prevent soils that have been impacted with Site Constituents to become windblown or erode and potentially deposit on adjacent property or NW Front Avenue where they could be entrained in stormwater. The source control actions consist of excavating soil from the City of Portland parking strip "Parkway" and consolidating it on the Site, grading the site, and capping a portion of the site with clean imported top soil where Site Constituents exceed the applicable screening values. The excavation area is nominally 450 feet by 25 feet by 5 feet. The cap area is nominally 76,000 square feet or approximately 2,815 cubic yards. The source control action tasks to be performed include:
 - 1. Install erosion control per the 1200-C permit and Erosion Control Plan (Attachment 1).
 - 2. Remove approximately 485 linear feet of chain link fence on NW Front Avenue side of Site and 413 linear feet of chain link fence on the Site (Figure 3).
 - 3. Clear and grub the Site including removal of approximately 16 trees ranging in diameter from 4-inches to 14-inches measured at 42 inches from the ground.
 - 4. Excavate soil from Area 1 approximately 2,100 cubic yard. The excavation will proceed in one foot increments to allow inspection and evaluation to determine if additional excavation is necessary. Portions of the excavation will remain open to allow for verification sampling results to be obtained. The contractor should allow a 24-hour turn-around-time for laboratory result to be obtained. The contractor should explain their approach for minimizing stand-by time. The assumed excavation depth is 5 feet below ground surface (bgs). MMGL's understanding is there are no buried utilities in the Parkway; however, a "one-call" utility location must be conducted by the contractor to confirm this. Excavated materials will be consolidated in Area 2 (Figure 4).
 - 5. Backfill and compact the Area 1 with clean backfill and compact per Section 3.5.
 - 6. Grade site per grading plan. Figure 4.
 - 7. Construct stormwater swales per grading plan. Figure 4.

- 8. Install demarcation layer in Cap Area (Area 2). The purpose of the demarcation layer is to identify the boundary between the soil with Site Constituents and the soil cap. The demarcation layer material must be approved by MMGL or MMGL's onsite representative. Examples of demarcation include woven geotextile fabric, plastic construction fencing, or similar materials that will not substantially degrade underground.
- 9. Cap Area 2 with a minimum of 12 inches of compacted topsoilimported material and hydroseed. The initial 6 inches will consist of Knife River Quarry Rejects and the 6" to 12" layer will consist of sandy loam topsoil. See Section 3.5 and Figure 4. The cap area is nominally 76,000 square feet. Compaction will be done with the tracks of the grader. Hydroseed will meet Department of Transportation Specifications.
- 10. Plant trees per the Urban Forestry Tree Removal and Mitigation Permit and Plan (Figure 5).
- 11. Install approximately 485 linear feet of chain link fence in the location shown on Figure 4. The fence will be 6 foot tall chain link fencing with a top rail and an upper row of barbed wire... Install two access gates, Gate 1 and Gate 3 shown on Figure 4. The fence and gates will be installed per the fence manufacturer's specifications.

1.2 REFERENCED STANDARDS

A. American Society for Testing and Materials (ASTM)

1.	D422-63(1998)	Standard Test Method for Particle Size Analysis of Soils
2.	D4318-00	Liquid Limit, Plastic Limit and Plasticity Index of Soils
3.	D1557-00	Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort
4.	D2922-01	Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods

5. D3017-01 Standard Test Methods for Water Content of Soil and Rock in Place by Nuclear

Methods

1.3 DEFINITIONS

A. Owner: MMGL, Corp.

B. Owner's Representative: Bridgewater Group.

C. Engineer: TRT Engineering, LLC.

1.4 JOB CONDITIONS

A. The Contractor represents that it has had the opportunity to visit the Site to become familiar with the quantity, location, and character of existing materials and conditions on the Site. The Contractor agrees that the premises were made available prior to submission of bids for whatever inspection and tests the Contractor deemed appropriate. The Contractor agrees that the work plan and any other requested reports were made available for supplemental documentation of Site conditions. The Contractor assumes full responsibility for compliance with all applicable health and safety requirements as mandated in city, county, state, and federal statutes.

Addendum 1

B. The concentration of Site Constituents is defined in the Source Control Investigation Report. The report will be provided at the request of the contractor. Tables showing Site Constituent concentrations are provided in Attachment 2.

C. Site Access:

- 1. MMGL Access to the Site will be granted by MMGL. The contractor must maintain a copy of the Site Development Permit at the Site at all times.
- 2. NW Front Avenue Parkway Access to the NW Front Ave Parkway will be granted in the Site Development Permit.

D. Permits:

- Owner's Representative will obtain the following permits: City of Portland Site Development Permit and City of Portland Urban Forestry Tree Removal and Mitigation Permit. The Contractor will be required to meet the conditions of these permits. When obtained, MMGL will provide the contractor the permits for review. MMGL and the Contractor will mutually agree on how the conditions of the permit will be met and if the conditions results in a changed condition.
- 2. Contractor shall obtain all other required permits including, but not limited to, landfill disposal profile, and use of temporary utilities.
- E. Allowable work hours are 8:00 am to 5:00 pm seven days per week unless otherwise agreed upon.

1.5 UTILITY LOCATE/CLEARANCE

A. The Contractor shall be responsible for verifying all subsurface, surface, and overhead utility locations prior to commencing work. If required, the contractor will be responsible for contacting Portland General Electric (PGE) and implementing the requirements specified by PGE to protect power poles between the Site and NW Front Avenue.

1.6 TEMPORARY FACILITIES

- A. Temporary Utilities No utilities will be furnished by Owner, Owner's Representative, or Engineer. Contractor is responsible for obtaining any utilities necessary to complete the work at no added cost. Contractor shall be responsible for any necessary approvals to obtain temporary utilities.
- B. Sanitary Facilities The Contractor shall provide and maintain sanitary facilities that meet the requirements of Oregon Revised Statutes (ORS) 654.150 and other applicable State and local health regulations. The Contractor shall bear the costs that may be incurred in complying with ORS 654.150 and the rules adopted pursuant thereto.

1.7 SAFETY

- A. The Contractor shall be responsible for the safety of all Contractor personnel, including subcontractors that perform work at the Site.
- B. Health and Safety Plan Following contract award, the Contractor shall prepare and submit to Owner's Representative a written health and safety plan (HSP) that covers all Contractor personnel, including

subcontractors that will perform work at the Site and that obtains compliance with 1910.120, subdivision 2/H, of the Oregon Administrative Rules.

1.8 NOISE CONTROL

A. The Contractor shall comply with local noise control regulations.

1.9 SOLID WASTE MANAGEMENT

A. The Contractor shall be solely responsible for determining the proper disposition of all solid waste, including documentation showing that the solid waste and recyclables are not regulated as hazardous waste in accordance with state and federal regulations.

B. Receptacles:

- 1. Discarding of aerosol cans, used oil, paints, solvents, fluorescent light tubes, or any hazardous waste into a receptacle is strictly prohibited.
- 2. All recyclable and general solid waste hauled out shall be secured prior to leaving the work site so that no waste material blows out, falls out, or leaks out during transportation to the designated off-site location.
- C. The Contractor shall dispose of waste material off the Site and in accordance with applicable state, federal, and local regulations.
- D. Burning or burying of waste material is not permitted.
- E. Disposal of waste material within the area cleared, or a river, stream, wetland, or other waterway or waterfront is not permitted. If any waste material is dumped in unauthorized areas, the material shall be removed and the area restored to a condition approximating the adjacent undisturbed area.

1.10 STORAGE AND PROTECTION OF MATERIAL AND EQUIPMENT

- A. The Contractor shall protect materials and equipment from damage, pilfering, etc.
- B. Upon completion of the work, the Contractor shall remove unused materials and equipment and restore the area to original condition, including any grading of fill necessary to restore drainage patterns and surface smoothness.

1.11 RUNOFF SEDIMENT CONTROLS

- A. At all times, the Contractor shall maintain erosion and sediment controls to prevent the entry of soil, sediments, dust, or other materials from entering any storm drainage collection area, conveyance, or drain inlet.
- B. Prior to any site work, Contractor shall install, at a minimum, erosion controls indicated in the Sediment and Soil Erosion Control Plan. The erosion controls shall remain in place until the surface finish is fully established (e.g., gravel surfacing, vegetation, etc.). At such time, Contractor shall remove remaining erosion controls.

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1.12 DUST CONTROL

A. The Contractor shall minimize and abate the creation of nuisance dust conditions during earthwork or equipment movement activities.

1.13 EQUIPMENT DECONTAMINATION

- A. All equipment shall be decontaminated prior to arriving at the Site and prior to leaving the Site during demobilization. The Contractor shall erect a temporary equipment decontamination station at a location determined by Owner's Representative.
- B. Equipment leaving the Site such as haul trucks, vactors, or Contractor vehicles shall be inspected prior to leaving the Site for evidence of visual contamination on tires/wheels or other surfaces. If visible evidence of contamination is present, the equipment shall be decontaminated prior to leaving the work area.

1.14 TRAFFIC CONTROL AND PROTECTION OF THE WORK AND FACILITIES

- A. Before starting work, the Contractor shall provide and install any signs and/or barricades necessary for protection of the work. The Contractor shall install and maintain adequate warning signs and lighted barricades to protect property and personnel in the work area. Barricades shall be weighted or anchored to prevent overturning from wind.
- B. The work shall be carried out at all times in a manner causing a minimum interference with traffic on either public right-of-way or private roadways. The Contractor shall provide necessary barricades, warning signs, lights, and flag person(s) to expedite the movement of traffic.
- C. The Contractor shall be responsible for assuring that existing sidewalks, curbs, power poles, railroad tracks or other structures are not undermined or damaged by sloughing materials into the excavation. The Contractor shall support the excavation side walls in Area 1 as necessary to prevent undermining of NW Front Avenue. Any repair or restoration of the existing sidewalk, curb, etc. shall be at the sole expense of the Contractor.

1.15 ENVIRONMENTAL PROTECTION MEASURES

- A. All construction equipment and vehicles shall be maintained in proper working conditions with no leaking fluids. The Contractor shall inspect the equipment at least daily and immediately clean up any spilled or leaking fluids.
- B. All diesel-power, off-road vehicles and equipment used on the project for three consecutive days or more shall be fueled with ultra low-sulfur diesel (ULSD). This includes, at a minimum, vehicles with engine horsepower (HP) ratings of 50 HP and above, and internal combustion engines used to power generators, compressors, and similar equipment.
- C. The Contractor shall limit idling of vehicles and equipment during periods of inactivity.
- D. All work shall be performed and all steps taken to prevent interference or disturbance to wildlife.

1.16 MEASUREMENT AND PAYMENT

A. Incidental Work – Consider work not listed, but necessary to complete the work, as incidental. Each item has incidental work associated with it. Some of the incidentals may be identified. However, the list is not complete. This does not relieve the Contractor from the responsibility for completing the incidental work. Incidental work includes, but is not limited to: hauling, transporting, grading, compacting, and other tasks necessary for the work specified.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Unless otherwise specified, the Contractor shall provide all required materials for the project. Materials shall be of the quality, size, shape, and gradation as specified in this part.
- B. Imported rock material shall be clean, free-draining, granular material obtained from a commercial pit in natural deposits of igneous or metamorphic rock. Individual particles shall be free from all objectionable coatings. The material shall contain no organic matter, nor soft friable particles in quantities considered objectionable.
- C. The following activities shall be performed by the Contractor, as specified below, to ensure that imported materials are natural, native, virgin materials and free of contaminants (e.g. volatile organic compounds, semi-volatile organic compounds, poly-chlorinated biphenyl's, petroleum hydrocarbons, cyanide, pesticides, dioxins/furans, or inorganic materials such as metals or metalloids that are above State of Oregon typical background concentrations). The imported materials must also be free of debris or recycled materials and meet construction specifications. All submittals specified below shall be to the office of Owner's Representative.
 - 1. A characterization of any and all imported material shall be performed by the Contractor prior to any on-site placement. The characterization will include a laboratory analysis for the items listed in 2.1C above of a borrow source sample and a site inspection.
 - 2. Source Identification: The Contractor shall provide documentation of the origin of borrow source materials and laboratory analysis with detection limits low enough to meet the Joint Source Control Strategies screening levels.
 - 3. The Contractor shall provide a 1-gallon sample of each import material. The Contractor shall ensure that the samples are representative of each material to be imported. Samples shall be provided at least 5 business days before the materials represented by the samples are delivered to the Site.
 - 4. Testing, Reporting, and Certification: The Contractor shall provide prior test results (completed within the last 90 days) or shall test samples of materials to be imported that demonstrate compliance with these specifications.
 - 5. The Contractor shall provide the results of such tests at least 5 business days before delivery of the materials to the Site. The results shall be provided in report form, with the reports clearly identifying the following:
 - a. Source of samples
 - b. Sampling dates
 - c. Sampling locations
 - d. Contractor's certification that the samples tested and the results provided are representative of materials that shall be delivered to the Site

Addendum 1

- 6. Inspection of Materials at the Site: Truckloads of imported material shall be visually inspected by the Contractor upon delivery.
- 7. The Contractor shall collect certified tickets from the borrow source for each load of material brought to the Site. The tickets shall be supplied to Owner's Representative.
- 8. Owner's Representative maintains the right to reject any materials that have been determined to be substandard for any reason. In the event of rejections, it shall be the responsibility of the Contractor to remove all stockpiles of rejected material from the Site.

2.2 CRUSHED ROCK

A. Clean, durable crushed rock meeting the requirements of ODOT Standard Specifications Section 02630.11 - Open-Graded Aggregate.

2.3 TOPSOIL

A. Clean imported topsoil meeting the requirements of ODOT Standard Specifications Section 01040.14 – Topsoil.

2.4 Seed, Fertilizer, Mulch, Tackifier

- A. Provide materials in accordance with ODOT Standard Specifications Section 01030.13 through 01030.16.
- B. Seed mix shall be specified by the Owner's Representative.

PART 3 - EXECUTION

3.1 GENERAL

- A. Owner's Representative will designate the disposition and determine the suitability of products.
- B. Owner's Representative will stake the work. The right is reserved to make minor adjustments or revisions in lines or grades, if found necessary as the work progresses. The Owner will provide a surveyor that will be available during the work.
- C. The Contractor shall suspend earthwork when satisfactory results cannot be obtained because of rain, freezing weather, or other unsatisfactory conditions.
- D. Hauling equipment shall be routed around or away from areas of soft or yielding subgrade.
- E. The Contractor shall furnish and maintain earth-moving equipment in satisfactory condition and operate such equipment as necessary to control uniform density, section, and smoothness of grade.

3.2 SITE CLEARING

A. General

- 1. The work under this section shall consist of providing all work, materials, labor, equipment, and supervision necessary to clear and grub the Site of existing vegetation as required in these specifications and on the drawings.
- 2. Confine clearing and grubbing operations to the limits as indicated on the drawings. In the absence of such a designation on the drawings, confine work to the minimum area reasonably necessary to undertake the work as determined by the Owner's Representative. Clearing and grubbing operations shall not extend past the property line or easement line without prior approval of the Owner's Representative.
- 3. To minimize erosion, limit heavy equipment travel only to that necessary to complete clearing and grubbing.
- 4. Repair damaged erosion control features immediately.

B. Onsite Burial of Materials

1. Onsite burial of materials from off-site sources in borrows pits or other locations are not permitted.

C. Offsite Disposal of Materials

- 1. Clearing and grubbing debris shall be disposed of at facilities designed to accept the material that is being disposed. Follow all local, state and federal regulations.
- 2. Clearing and grubbing vegetation free of topsoil may be handled assuming free of chemical contamination.
- 3. Grubbed vegetation commingled with soil shall be disposed of as contaminated materials in a Subtitle D landfill in accordance with Section 3.3.

3.3 EXCAVATION

- A. Excavate to the lines/grades shown on the drawings.
- B. Excavate areas to provide positive drainage whenever possible.
- C. Remove excess and spoil material from the Site in a timely fashion.
- D. Do not excavate below design grades without prior authorization by the Owner's Representative.
- E. Excavations greater than 2 feet in depth shall be surrounded with temporary chain link fencing whenever there is no activity at that portion of the Site.
- F. Locate backfill and spoil piles in accordance with OSHA requirements, and so that it does not interfere with public travel, adjacent landowners, or other construction activities.
- G. Contractor shall be responsible for control of groundwater sufficiently to complete the work and in accordance with Section 3.4. Excavated materials containing free water shall be placed on a dewatering pad constructed to allow collection of liquids draining from the excavated materials. At a minimum the dewatering pad shall be lined with plastic sheeting.
- H. Excavated material shall be consolidated and graded in Area 2. If excavation materials require off-site disposal, the Contractor is responsible for obtaining the landfill approval for disposal.

Addendum 1

3.4 DEWATERING

A. General

- 1. Dewatering is not anticipated. However should it be required it will be performed in accordance with this section.
- 2. The work under this section shall consist of providing all work, materials, labor, equipment, and supervision necessary to provide for control of water. Control of water shall consist of the design, furnishing, installation, operation, maintenance and removal of a groundwater control system(s) to achieve proper completion of all work.
- 3. Contractor shall size and install a dewatering system as required to construct the project. The Contractor shall be fully responsible for disposal of all water and oil from the excavation in an approved manner at no additional cost.
- 4. Conform to all Federal, State and local regulations regarding groundwater drawdown and discharge.

B. Sump Dewatering

- 1. Install collection sump in the low point of the excavation.
- 2. Provide filter material, trash screens, and/or other devices around pump or intake to avoid pumping of sediment. Provide sediment tanks, skimmers, filters, and/or flocculants as required for sediment control and oil removal.

C. Water Discharge

1. The Contractor is required to obtain permits for discharge of water to the City of Portland sanitary sewer or facility permitted to accept the water.

3.5 PLACING AND COMPACTING MATERIAL

- A. Place fill type as shown on the drawings to the lines/grades shown on the drawings.
- B. Do not place fill on areas consisting of organic soil, debris, or other soft and yielding material. For caps, clear vegetation to the ground surface. Grubbing is not required prior to placement of cap material unless grading is required.
- C. Place fill in horizontal lifts having thickness as shown on Table 1.
- D. Compact fill material as required by Table 1.
- E. Moisture condition fill material as necessary to achieve density required for given use.
- F. Place and compact backfill so as to minimize settlement and avoid damage to walls, utility lines, and other work in place. Place backfill simultaneously on both sides of free-standing structures.
- G. It is the responsibility of the Contractor to provide all necessary compaction equipment and other grading equipment that may be required to obtain the specified compaction. Compaction of controlled backfill by travel of grading equipment will not be considered adequate for uniform compaction. Hand guided vibratory or tamping compactors will be required whenever controlled backfill may be placed adjacent to walls, footings, columns or in confined areas.

Table 1

Location	Required Material	Maximum Com- pacted Lift Thickness	Minimum Proctor Compaction	Compaction Test- ing Frequency
Area 1 Crushed RockKni River Quarry Reje to within 1 foot of the face Top Soil upper 1 foot		9 in.	92% Modified	Every 500 sq. ft., Top Lift Only
Area 2	Knife River Quarry TopsoilRejects R.A. Roth Tops Soil	12 <u>6</u> in. 6 in.	None None	N/A N/A

3.6 GRADING TOLERANCES AND FINISH

- A. Rough grade within required subgrade lines and grades:
 - 1. Vertically: ± 0.2 Ft.
 - 2. Horizontally: ± 0.5 Ft.
- B. Area 1: Fine grade required subgrade lines and grades:
 - 1. Vertically: ± 0.05 Ft.
 - 2. Horizontally: ± 0.5 Ft.
- C. Area 2: Fine grade required subgrade lines and grades:
 - 1. Vertically: + 0.5 Ft.
 - 2. Horizontally: ± 0.5 Ft.

3.7 SEEDING

- A. Conduct seeding in accordance with ODOT Standard Specifications Section 01030.40 through 01030.44, 01030.48(e), and 01030.49. Perform the work in accordance with Water Quality and Permanent Seeding.
- B. Maintain seeding in accordance with ODOT Standard Specifications Section 01030.60 through 01030.62. Mowing is not required.

3.8 CLEANUP

- A. Level off all disturbed areas and clean up all areas used for the storage of materials or the temporary deposit of excavated earth. Remove all surplus material, tools, and equipment.
- B. Thoroughly clean all drainage ways, roads, parking lots, sidewalks, and paved surfaces and remove and dispose of all debris and mud.

Addendum 1 END OF SECTION

Doane Lake Source Control Action

Bid Sheet

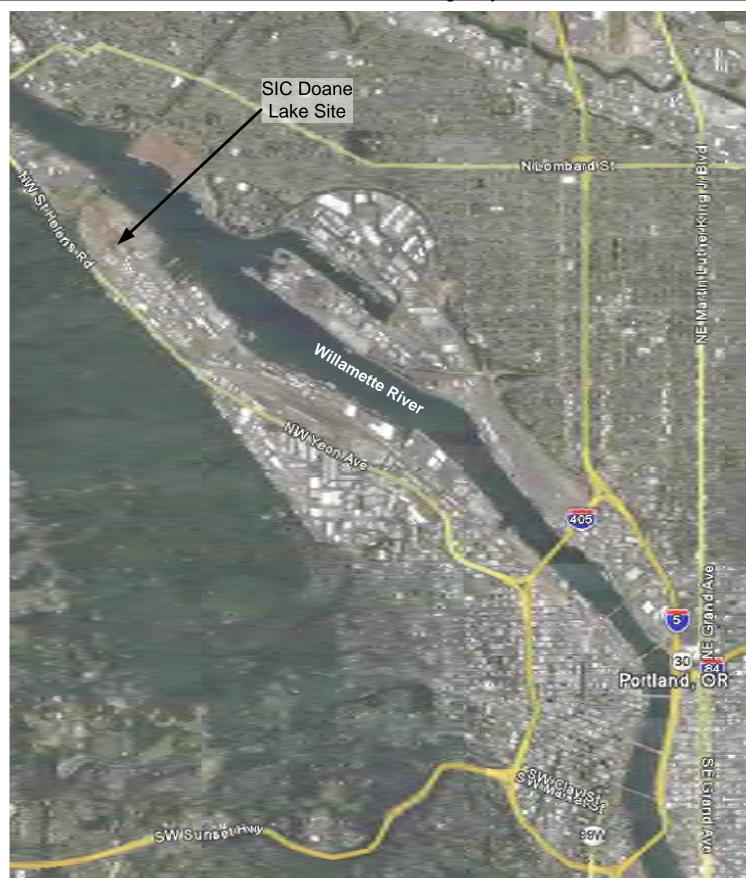
Install erosion control Remove approximately 485 linear feet of chain link fence	
2. Remove approximately 485 linear feet of chain link fence	
3. Clear and grub the Site	
4. Excavate soil from Area 1 approximately 2,100 cubic yard.	
Unit Cost for Soil Relocation from Area 1 to Area 2:/cubic yard ¹	
5. Backfill and compact the Area 1.	
Unit Cost for Backfill/cubic yard	
6. Grade site per grading plan. Figure 4.	
7. Construct stormwater swales per grading plan. Figure 4.	
8. Install demarcation layer in Cap Area (Area 2).	
9. Cap Area 2 and hydroseed. The cap area is nominally 76,000 square feet.	
Unit Cost for Backfill/cubic yard	
10. Plant trees per the Urban Forestry Tree Removal and Mitigation Permit and Plan	
11. Install approximately 485 linear feet of chain link fence.	
Total Cost	

сопрану.

Signature_____

Date: _____

For Construction Bidding Only

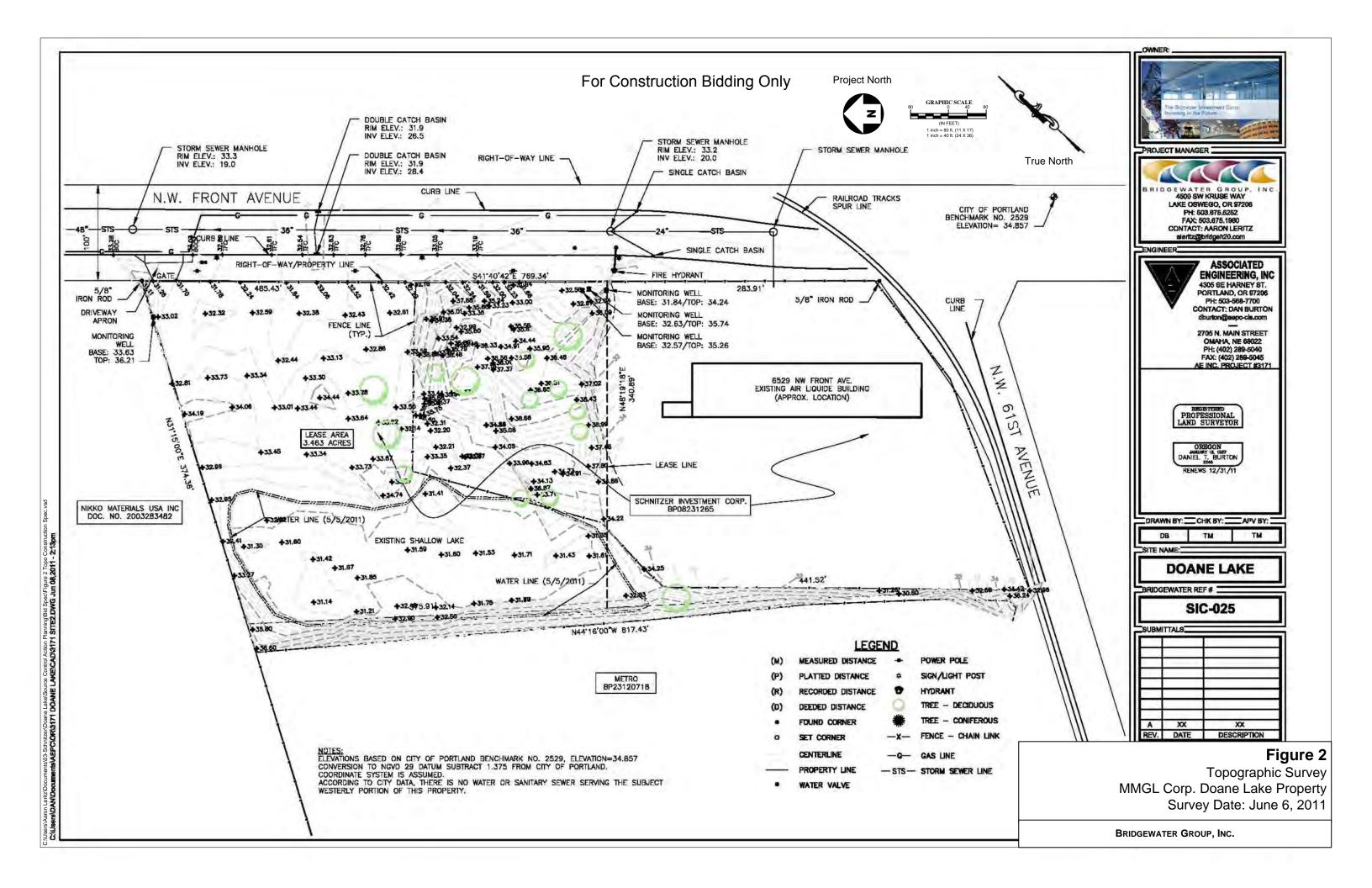




Approximate Scale
3600 Feet

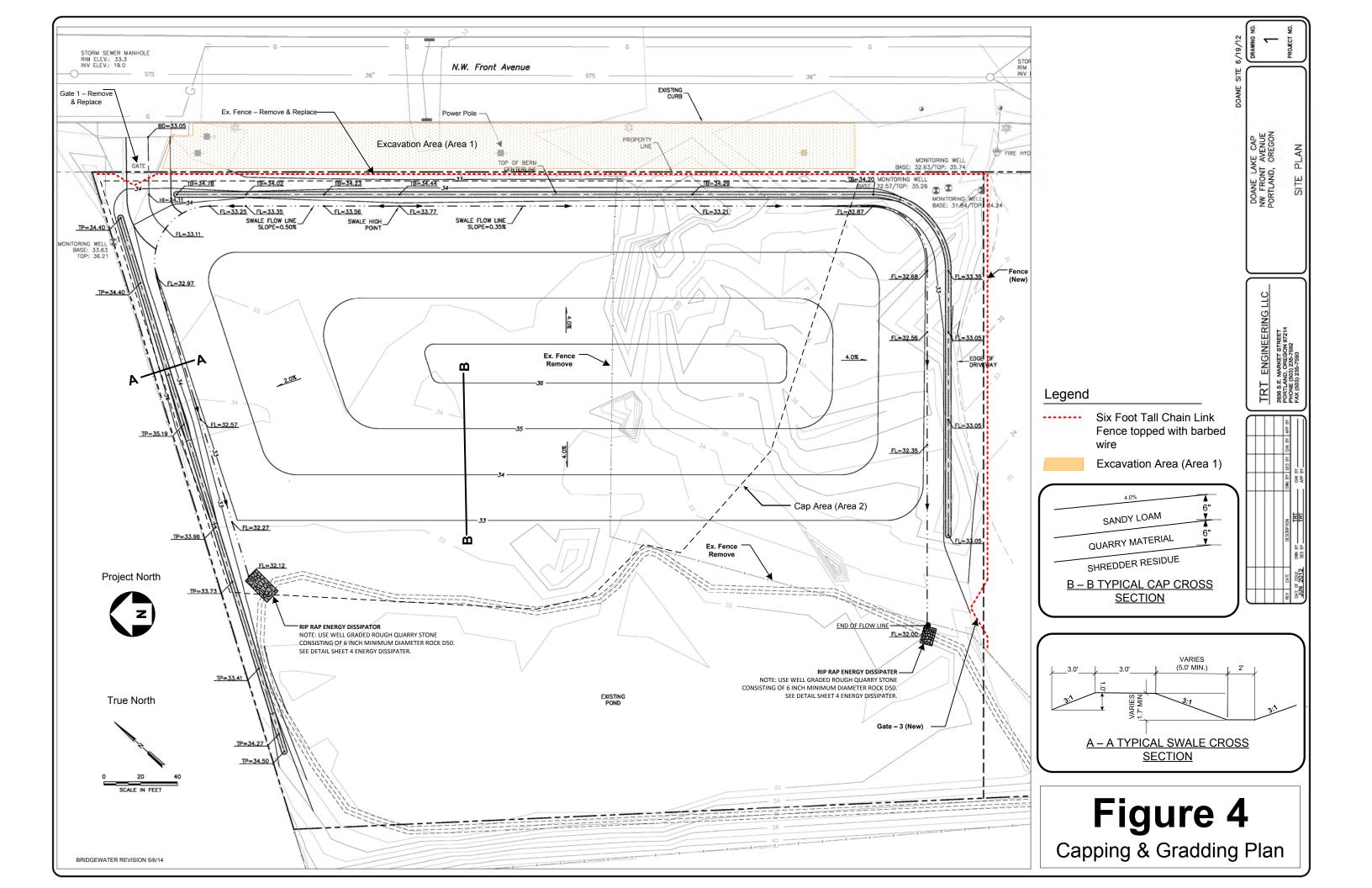
Figure 1
Site Location
MMGL Corp. Doane Lake Property

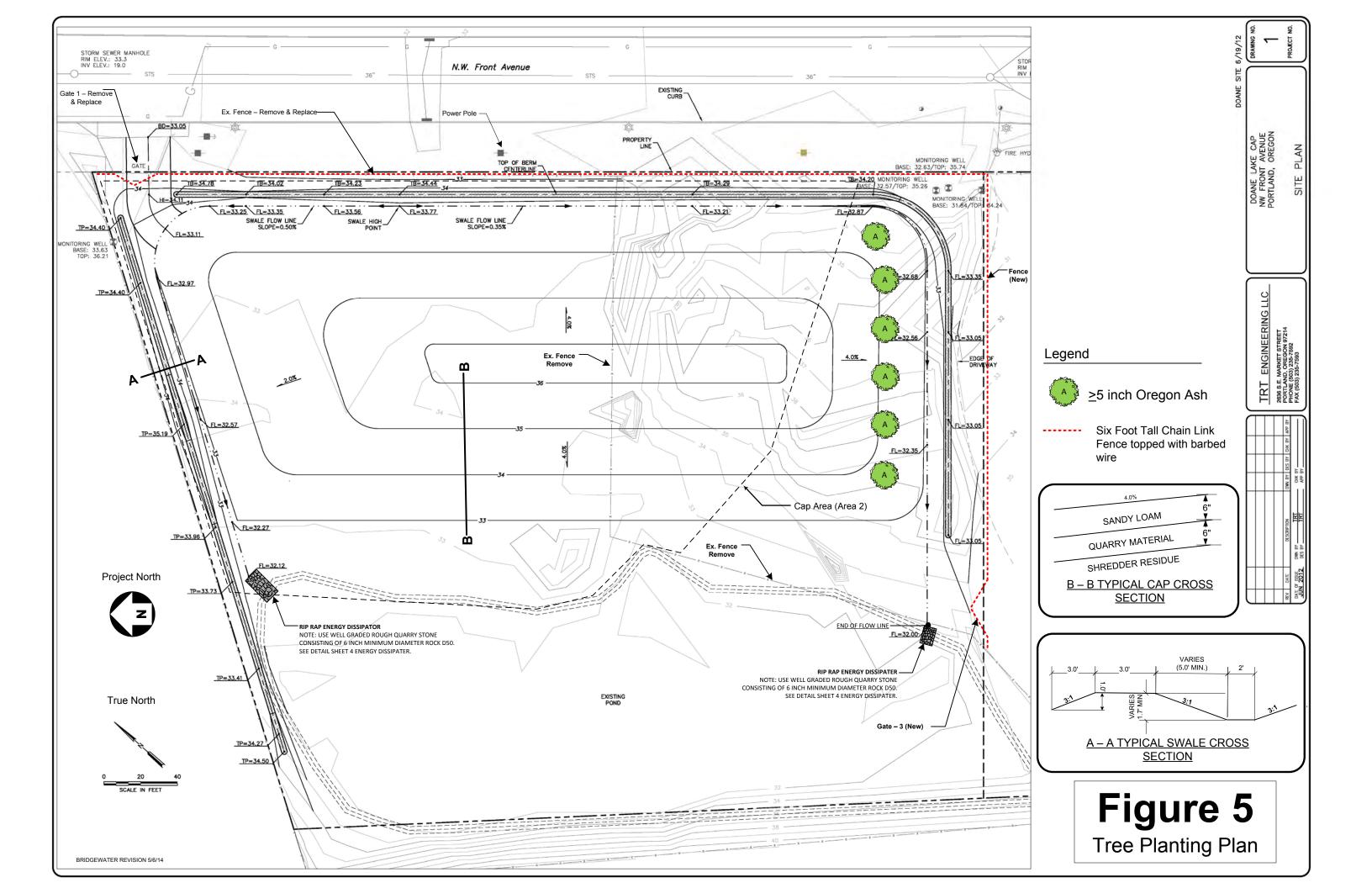
BRIDGEWATER GROUP, INC.



For Construction Bidding Only







Addendum 3 Tree Cutting Permit



Tree Cutting Permit Permit is valid for 60 days.

Permit Number: 13-187544-PF Issue Date: May 16, 2014

Permit Issued by: Charley Davis

Site Inspected by: Charley Davis

Site Address: 6529 NW FRONT AVE

Applicant: Bridgewater Group

Property Owner: SCHNITZER INVESTMENT CORP

1211 SW FIFTH AVE #2250 PORTLAND, OR 97204

Number and Variety of Trees to be removed:

2 cottonwood, black (Populus trichocarpa)

Reason for Removal:

Dangerous: No Tree structural damage: No

Dead or Dying (decay, rot): No Infrastructure damage: No

Diseased (bacteria, virus, fungal): No Other (specify): No

Number and Variety of Trees to be replaced as a condition of the permit:

6 ash, Oregon (Fraxinus oregana)

All work, including replanting, must be completed within 60 days of permit issuance. The grantee is responsible for the successful establishment of the replanted trees.

In issuing this permit the City assumes no responsibility for damage to persons, property, or the environment associated with activities of the Permittee including those activities authorized, directed, or undertaken pursuant to this permit.

The Permittee agrees to perform the above work in accordance with Portland City Code Chapter 20.42 and its implementing regulations.

For questions, please contact your Urban Forestry Tree Inspector:

Charley Davis 503-823-4523 Charley.Davis@portlandoregon.gov

City Nature - Urban Forestry Program 10910 N. Denver Ave. Portland, OR 97217 Tel: (503) 823-4489 Fax: (503) 823-4493

Administration 1120 S.W. 5th Ave., Suite 1302 Portland, OR 97204 Tel: (503) 823-7529 Fax: (503) 823-6007



Appendix B

National Pollution Discharge Elimination System (NPDES) 1200-C Construction Stormwater Discharge Permit, Erosion and Sediment Control Plan (ESCP)

Expiration Date: November 30, 2015

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GENERAL PERMIT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM STORMWATER DISCHARGE PERMIT

Oregon Department of Environmental Quality 811 SW Sixth Avenue, Portland OR 97204 Telephone: (503) 229-5279 or 1-800-452-4011 (toll free in Oregon)

Issued pursuant to ORS 468B.050 and Section 402 of the Federal Clean Water Act

ISSUED TO: 9/11/2013

GEN12C

MULTNOMAH/NWR

File No.123416

ORR10D546

MMGL Corporation 1121 SW Fifth Ave Ste 2250 Portland, OR 97204

Site: Doane Lake Source Control Action

SOURCES COVERED BY THIS PERMIT:

- Construction activities including clearing, grading, excavation, materials or equipment staging and stockpiling that will disturb one or more acres and may discharge to surface waters or conveyance systems leading to surface waters of the state.
- Construction activities including clearing, grading, excavation, materials or equipment staging and
 stockpiling that will disturb less than one acre that are part of a common plan of development or sale if the
 larger common plan of development or sale will ultimately disturb one acre or more and may discharge to
 surface waters or conveyance systems leading to surface waters of the state.
- This permit also authorizes discharges from any other construction activity (including construction activity
 that disturbs less than one acre and is not part of a common plan of development or sale) designated by
 DEQ, where DEQ makes that designation based on the potential for contribution to an excursion of a water
 quality standard or for significant contribution of pollutants to waters of the state.

This permit does not authorize the following:

- In-water or riparian work, which is regulated by other programs and agencies including the Federal Clean Water Act Section 404 permit program, the Oregon Department of State Lands, the Oregon Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, the U.S. Army Corp of Engineers, the National Marine Fisheries Service, and the Department of Environmental Quality Section 401 certification program.
- Post-construction stormwater discharges that originate from the site after completion of construction activities and final stabilization.
- Discharges to underground injection control (UIC) systems.

eil Mullane

Neil Mullane, Administrator Water Quality Division Effective: December 1, 2010

Expiration Date: November 30, 2015

PERMITTED ACTIVITIES

Until this permit expires, is modified or revoked, the permit registrant is authorized to construct, install, modify, or operate erosion and sediment control measures and stormwater treatment and control facilities, and to discharge stormwater and certain specified non-stormwater discharges to surface waters of the state or conveyance systems leading to surface waters of the state in conformance with all the requirements, limitations, and conditions set forth in the permit including attached schedules as follows:

Expiration Date: November 30, 2015

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SCHEDULE A CONTROLS AND LIMITATIONS FOR STORMWATER DISCHARGES, AND EROSION AND SEDIMENT CONTROL PLAN

CONSTRUCTION ACTIVITIES REQUIRED TO REGISTER FOR PERMIT

An owner or operator of construction activities must register for coverage under this permit with DEQ before any soil disturbance occurs, if they are not automatically covered as described in the 1200-CN permit.

1. Registering New Construction Activities

a. Applicants seeking registration for coverage under this permit for construction activities that will disturb one or more acres must submit a complete application to DEQ or Agent at least 30 calendar days before the planned soil disturbance, unless otherwise approved by DEQ or Agent (see Schedule D for description of Agent). The application must include:

i. A DEQ-approved application form;

- ii. One paper copy and one electronic copy (PDF) of an Erosion and Sediment Control Plan (ESCP);
- iii. A Land Use Compatibility Statement (LUCS) indicating that the proposed activities are compatible with the local government's acknowledged comprehensive plan; and

iv. Applicable permit fees.

b. Applicants seeking registration for coverage under this permit for construction activities that will disturb less than one acre that are part of a larger common plan of development or sale must, at least 30 calendar days before the planned soil disturbance, submit:

i. A DEQ-approved application form;

ii. One copy of an Erosion and Sediment Control Plan that covers the individual lot(s); and

iii. Applicable permit fees.

- c. Applicants seeking registration for coverage under this permit for construction activities that disturb or are likely to disturb five (5) or more acres over the life of the project, are subject to a 14-calendar day public review period before permit registration is granted. The public review period will not begin if the application form or ESCP are incomplete. These applicants must submit to DEQ or Agent an additional paper copy of an ESCP (total of two paper copies and one PDF copy).
- d. DEQ or Agent will notify the applicant in writing if registration is approved or denied. Permit coverage does not begin until the applicant receives written notice that the registration is approved. If registration is denied or the applicant does not wish to be regulated by this permit, the applicant may apply for an individual permit in accordance with OAR 340-045-0030.

2. Renewal Application for Permit Coverage

- a. An owner or operator of construction activities registered under the 1200-C permit that expires on November 30, 2010 must submit to DEQ or Agent a complete renewal application, using a DEQapproved renewal application form by November 30, 2010 to ensure uninterrupted permit coverage for construction stormwater discharges.
- b. If registration is denied or the applicant does not wish to be regulated by this permit, the applicant may apply for an individual permit in accordance with OAR 340-045-0030.

3. Transfer of Permit Registration

- a. To transfer permit registration, the new owner or permit registrant must submit a DEQ-approved transfer form and applicable fees prior to permit expiration and within 30 calendar days of the planned transfer.
- If ownership changes (through sale, foreclosure or other means) and the previous owner cannot be found:
 - The new owner must register for coverage under the permit (Schedule A, Paragraph 1) if the site is not stabilized.

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ii. The new owner must register for coverage under the permit (Schedule A, Paragraph 1) prior to any additional soil disturbance.

- iii. The new owner does not need to register for coverage under the permit if the site meets the conditions for termination (see Schedule B) and there is no ongoing or additional soil disturbance planned.
- iv. DEQ will attempt to contact the previous owner at the address on record. If there is no response, after 60 days DEQ may terminate the previous owner's permit coverage.

4. Authorized Stormwater Discharges

Subject to compliance with the terms and conditions of this permit, and provided that all necessary controls are implemented to minimize sediment transport, the following stormwater discharges from construction sites are authorized (unless otherwise prohibited by local ordinances):

- Stormwater associated with construction activity described in the "Sources Covered" section of the permit.
- Stormwater from support activities at the construction site (for example, concrete or asphalt operations, equipment staging yards, material storage areas, excavated material disposal areas and borrow areas) provided:
 - i. The support activity is directly related to the construction site covered by this NPDES permit;
 - The support activity is not a commercial operation serving multiple unrelated construction projects by different permit registrants;
 - The support activity does not operate beyond the completion of the construction activity at the last construction project it supports; and
 - Appropriate control measures are used to ensure compliance with discharge and water quality requirements.

5. Authorized Non-Stormwater Discharges

Subject to compliance with the terms and conditions of this permit, and provided that all necessary controls are implemented to minimize sediment transport, the following non-stormwater discharges from construction sites are authorized (unless otherwise prohibited by local ordinances):

- a. Potable water including uncontaminated water line flushing (refer to DEO guidance);
- b. Vehicle washing that does not use detergents or hot water;
- c. External building wash down that does not use detergents or hot water;
- d. Pavement wash waters where stockpiled material, spills or leaks of toxic or hazardous materials have not occurred (unless all stockpiled and spilled material has been removed) and where detergents or hot water are not used;
- e. Construction dewatering activities (including groundwater dewatering and well drilling discharge associated with the registered construction activity), provided that:
 - the water is land applied in a way that results in complete infiltration with no potential to discharge to a surface water of the state, or
 - Best Management Practices (BMPs) or an approved treatment system is used to ensure compliance with discharge and water quality requirements;
- f. Foundation or footing drains where flows are not contaminated with process materials such as solvents; and
- g. Landscape irrigation.

For other non-stormwater discharges, a separate permit may be needed. The disposal of wastes to surface waters or on-site are not authorized by this permit. The permit registrant must submit a separate permit application for such discharges.

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6. Limitations on Coverage

The following discharges are not authorized by this permit:

- a. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
- b. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
- c. Soaps or solvents used in vehicle and equipment washing.

7. Control Measures

The following controls and practices are required, if appropriate for the site.

- a. Wet Weather BMPs.
 - i. Avoid or minimize excavation and bare ground activities during wet weather.
- b. Temporarily stabilize soils at the end of the shift before holidays and weekends, if needed. It is the owner/operator's responsibility to ensure that soils are stable during rain events at all times of the year. Erosion Prevention (Prevent or minimize the initial disturbance of sediment).
 - i. Clearing and Grading.
 - Phase clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming sources of erosion. Minimize erosion during and after soil disturbance using BMPs such as temporary seeding and planting, permanent seeding and planting, mulches, compost blankets, erosion control blankets and mats, and soil tackifiers.
 - ii. Wind Erosion/Dust Control. Water or use a soil-binding agent or other dust control technique as needed to avoid wind-blown soil.
 - iii. Vegetative Erosion Control.
 - (1) Preserve existing vegetation and re-vegetate open areas when practical.
 - (2) Do not remove temporary sediment control practices until permanent vegetation or other cover of exposed areas is established.
 - (3) Identify the type of seed mix (percentages of the various seeds of annuals, perennials and clover) and other plantings.
- c. Runoff Control (Divert, collect, convey or control flow; prevent or minimize scouring). Use BMPs such as diversion of run-on; trench drains, slope drains, french drains and subsurface drains that discharge to the surface; temporary diversion dikes; earth dikes; grass-lined channels (such as turf reinforcement mats); drainage swales; energy dissipaters; rock outlet protection; drop inlets; and check dams. Note that any underground injection must comply with OAR Chapter 340, Division 44.
- d. Sediment Control (Retain and/or remove sediment through filtration and settling).
 - i. Control sediment along the site perimeter and at all operational internal storm drain inlets at all times during construction. Retain and remove sediment both internally and at the site boundary by using BMPs such as sediment fences, vegetative buffer strips, sediment traps, rock filters, compost berms/compost socks, fiber rolls/ loose non-compacted straw wattles, storm drain inlet protection, and temporary or permanent sedimentation basins.
 - ii. Sediment Tracking and Transport Control.
 - (1) Prevent tracking of sediment onto public or private roads using BMPs such as:
 - (a) Establish graveled (or paved) exits and parking areas prior to any land disturbing activities.
 - (b) Gravel all unpaved roads located onsite.
 - (c) Use an exit tire wash.
 - (2) Cover all sediment loads leaving the site.
 - (3) When trucking saturated soils from the site, either use water-tight trucks or drain loads on site.
- e. Pollution Prevention and Control.
 - i. Pollution Prevention.
 - (1) Use BMPs to prevent pollution of stormwater or to treat flow from dewatering operations, ponded water management, paying operation controls, and temporary equipment bridge use.
 - (2) Use BMPs to prevent or minimize stormwater from being exposed to pollutants from spills; vehicle and equipment fueling, maintenance, and storage; other cleaning and maintenance activities; and waste handling activities. These pollutants include fuel, hydraulic fluid, and

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other oils from vehicles and machinery, as well as debris, leftover paints, solvents, and glues from construction operations.

ii. Stockpile Erosion and Sediment Control Practices.

- (1) Stockpiles located away from the construction activity but still under the control of the permit registrant must be protected to prevent significant amounts of sediment or turbid water from discharging to surface waters or conveyance systems leading to surface waters.
- (2) At the end of each workday soil stockpiles must be stabilized or covered, or other BMPs must be implemented to prevent discharges to surface waters or conveyance systems leading to surface waters.
- (3) In developing these practices, at a minimum the following must be considered: diversion of uncontaminated flows around stockpiles, use of cover over stockpiles, and installation of sediment fences (or other barriers that will prevent the discharge of sediment or turbidity) around stockpiles.
- iii. Solid Waste and Hazardous Materials Management.

 Implement the following BMPs when applicable: written spill prevention and response procedures, employee training on spill prevention and proper disposal procedures, spill kits in all vehicles, regular maintenance schedule for vehicles and machinery, material delivery and storage controls, training and signage, and covered storage areas for waste and supplies.
- f. Additional BMP Requirements During Inactive Periods.
 - i. If all construction activities cease at the site for thirty (30) days or more, the entire site must be stabilized using temporary seeding, vegetation, a heavy mulch layer, or another method.
 - ii. On any significant portion of the site, if construction activities cease for fourteen (14) calendar days or more, install temporary covering with blown straw and a tackifier, loose straw, or an adequate covering of compost mulch.

8. Implementation of Control Measures

- a. All permit registrants must implement the ESCP (Paragraph A.12). Failure to implement any of the control measures or practices described in the ESCP is a violation of the permit.
- b. All permit registrants must prevent the discharge of significant amounts of sediment to surface waters or conveyance systems leading to surface waters. The following conditions indicate that a significant amount of sediment has left or is likely to leave the site:
 - i. Earth slides or mud flows;
 - Concentrated flows of stormwater such as rills, rivulets or channels that cause erosion when such flows are not filtered, settled or otherwise treated to remove sediment;
 - Sediment laden or turbid flows of stormwater that are not filtered or settled to remove sediments and turbidity;
 - iv. Deposits of sediment at the construction site in areas that drain to unprotected stormwater inlets or to catch basins that discharge to surface waters. Inlets and catch basins with failing sediment controls due to lack of maintenance or inadequate design are considered unprotected;
 - v. Deposits of sediment from the construction site on any property (including public and private streets) outside of the construction activity covered by this permit.
- c. The permit registrant must ensure the control measures or practices described in the ESCP are implemented according to the following sequence:
 - i. Before Construction.
 - (1) Identify, mark, and protect (with construction fencing or other means) critical riparian areas and vegetation including important trees and associated rooting zones and vegetation areas to be preserved.
 - (2) Identify vegetative buffer zones between the site and sensitive areas (for example, wetlands), and other areas to be preserved, especially in perimeter areas.
 - (3) Hold a pre-construction meeting of project construction personnel that includes the inspector required by condition A.12.b.iii to discuss erosion and sediment control measures and construction limits.

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- (4) Stabilize site entrances and access roads including, but not limited to construction entrances, roadways and equipment parking areas (for example, using geotextile fabric underlay).
- (5) Install perimeter sediment control, including storm drain inlet protection as well as all sediment basins, traps, and barriers.
- (6) Establish concrete truck and other concrete equipment washout areas before beginning concrete work.
- (7) Establish material and waste storage areas, and other non-stormwater controls.
- (8) Stabilize stream banks and construct the primary runoff control measures to protect areas from concentrated flows.

ii. During Construction.

- (1) Land Clearing, Grading and Roadways.
 - (a) Begin land clearing, excavation, trenching, cutting or grading only after installing applicable sediment and runoff control measures.
 - (b) Provide appropriate erosion and sediment control BMPs for all roadways including gravel roadways.
 - (c) Install additional control measures as work progresses as needed.
 - (d) Phase clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion.
- (2) Surface Stabilization.
 - Apply temporary or permanent soil stabilization measures (for example, temporary and permanent seeding, or mulching) immediately on all disturbed areas as work is completed. Stabilization of disturbed areas must be initiated immediately whenever any earth disturbing activities have permanently ceased on any portion of the site.
- (3) Construction and Paving. Keep erosion and sediment control measures in place for the duration of construction, including protection for active storm drain inlets and appropriate non-stormwater pollution controls.
- iii. Final Stabilization and Landscaping.
 - (1) Provide permanent erosion prevention measures on all exposed areas.
 - (2) Remove and properly dispose of construction materials and waste, including sediment retained by temporary BMPs.
 - (3) Remove all temporary control measures as areas are stabilized, unless doing so conflicts with local requirements.

9. BMP Maintenance

- The permit registrant must establish and promptly implement procedures for maintenance and repair of erosion and sediment control measures.
- b. General Site Maintenance.
 - i. Significant amounts of sediment that leave the site must be cleaned up within 24 hours, placed back on the site and stabilized, or disposed of properly. In addition, the source(s) of the sediment must be controlled to prevent continued discharge within 24 hours. Any in-stream cleanup of sediment must be performed according to requirements and timelines set by the Oregon Department of State Lands.
 - Sediment must not be intentionally washed into storm sewers or drainage ways. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediments.
 - iii. If fertilizers are used to establish vegetation, the application rates must follow manufacturer's guidelines and the application must be done in such a way to minimize discharge of nutrients to surface waters.
- c. Maintenance of Erosion and Sediment Controls.
 - i. Sediment fence: remove trapped sediment before it reaches one third of the above ground fence height.
 - Other sediment barriers (such as biobags): remove sediment before it reaches two inches depth above ground height.

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iii. Catch basins: clean before sediment retention capacity has been reduced by fifty percent.

 Sediment basins: remove trapped sediments before design capacity has been reduced by fifty percent.

d. Stormwater Treatment Systems,

If a stormwater treatment system (for example, electro-coagulation, flocculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan (including system schematic, location of system, location of inlet, location of discharge, discharge dispersion device design, and a sampling plan and frequency) before operating the treatment system. The plan must be approved before operating the treatment system. The treatment system must be operated and maintained according to manufacturer's specifications.

10. In-stream Water Quality Standards

a. The permit registrant must not cause or contribute to a violation of in-stream water quality standards.

b. If the permit registrant develops, implements, and revises the control measures and practices described in the ESCP in compliance with Schedule A of this permit, DEQ assumes that the discharges authorized by this permit will not cause or contribute to a violation of water quality standards unless there is evidence to the contrary.

11. Water Quality Requirements for TMDL and 303(d) Listed Waterbodies

In addition to other applicable requirements of this permit, if a permit registrant's construction project has the potential to discharge to a portion of a waterbody that is listed for turbidity or sedimentation on the most recently EPA-approved Oregon 303(d) list or that have an established Total Maximum Daily Load (TMDL) for sedimentation or turbidity (available at www.deq.state.or.us/WQ/assessment/assessment.htm), the permit registrant must implement one or more of the BMPs listed below to control and treat sediment and turbidity. The selected BMP(s) must be identified in the ESCP as addressing this condition of the permit, and the rationale for choosing the selected BMP(s) must also be provided.

- a. Compost berms, compost blankets, or compost socks;
- b. Erosion control mats;
- c. Tackifiers used in combination with perimeter sediment control BMPs;
- d. Established vegetated buffers sized at 50 feet (horizontally) plus 25 feet (horizontally) per 5 degrees of slope:
- e. Water treatment by electro-coagulation, flocculation, or filtration; and/or
- Other substantially equivalent sediment or turbidity BMP approved by DEQ or Agent.

12. Erosion and Sediment Control Plan (ESCP)

- a. Preparation.
 - The permit registrant must ensure that an ESCP is prepared and revised as necessary for the
 construction activity regulated by this permit and submitted to DEQ or Agent as required by this
 permit.
 - ii. Qualifications to Prepare ESCP.
 - (1) For construction activities disturbing 20 or more acres, the ESCP must be prepared and stamped by an Oregon Registered Professional Engineer, Oregon Registered Landscape Architect, Oregon Certified Engineering Geologist, or Certified Professional in Erosion and Sediment Control (Soil and Water Conservation Society).
 - (2) If engineered facilities such as sedimentation basins or diversion structures for erosion and sediment control are required, the ESCP must be prepared and stamped by an Oregon Registered Professional Engineer.
- b. Required ESCP Elements
 - i. Name of the site.
 - Local Government Requirements.
 Include any procedures necessary to meet applicable local government erosion and sediment control or stormwater management requirements.

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iii. Erosion and Sediment Control Inspector.

- (1) Inspections must be conducted by a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact stormwater quality, is knowledgeable in the correct installation of the erosion and sediment controls, and is able to assess the effectiveness of any sediment and erosion control measures selected to control the quality of stormwater discharges from the construction activity.
- (2) Inspections must be conducted by a designated Erosion and Sediment Control Inspector.

(3) Provide the following for all personnel that will conduct inspections:

- (e) Name and title;
- (f) Contact phone number and, if available, e-mail address; and
- (g) Description of experience and training.

iv. Narrative Site Description.

- (1) Nature of the construction activity;
- (2) Proposed timetable indicating when each erosion and sediment control BMP is to be installed and the duration that it is to remain in place;
- (3) Estimates of the total area of the permitted site and the area of the site that is expected to undergo clearing, grading or excavation;
- (4) Nature of the fill material to be used, and of the insitu soils; and
- (5) Names of the receiving water(s) for stormwater runoff.

v. Site Map and Drawings.

- (1) The site map and drawings must be kept on site and must represent the actual BMP controls being used onsite, particularly those BMPs identified in the most recent ESCP;
- (2) The site map must show sufficient roads and features for DEQ or Agent to locate and access the site;
- (3) The site map and drawings must include (but is not limited to) the following features (as applicable):
 - (a) Total property boundary including surface area of the development;
 - (b) Areas of soil disturbance (including, but not limited to, showing cut and fill areas and preand post-development elevation contours);
 - (c) Drainage patterns before and after finish grading;
 - (d) Discharge points;
 - (e) Areas used for the storage of soils or wastes;
 - (f) Areas where vegetative practices are to be implemented;
 - (g) All erosion and sediment control measures or structures;
 - (h) Impervious structures after construction is completed (including buildings, roads, parking lots and outdoor storage areas);
 - (i) Springs, wetlands and other surface waters on site or adjacent to the site;
 - (j) Temporary and permanent stormwater conveyance systems;
 - (k) Onsite water disposal locations (for example, for dewatering);
 - (1) Storm drain catch basins depicting inlet protection, and a description of the type of catch basins used (for example, field inlet, curb inlet, grated drain and combination);
 - (m) Septic drain fields;
 - (n) Existing or proposed drywells or other UICs;
 - (o) Drinking water wells on site or adjacent to the site;
 - (p) Planters;
 - (q) Sediment and erosion controls including installation techniques; and
 - (r) Detention ponds, storm drain piping, inflow and outflow details.

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c. ESCP Revisions

- i. ESCP revisions must:
 - (1) Clearly identify any changes (such as type or design) to the BMPs identified in the ESCP, their location, maintenance required, and any other revisions necessary to prevent and control erosion and sediment runoff.
 - (2) Include contact information and any applicable certification, training and experience for changes in Erosion and Sediment Control Inspector.
- ii. Approval of the revisions by DEQ or Agent prior to implementation is not required.
- iii. Submission of all ESCP revisions is not required. ESCP revisions must be submitted only if they are made for any of the following reasons:
 - (1) Part of a Corrective Action (A.13).
 - (2) Change (increase or decrease) in the size of the project.
 - (3) Change (increase or decrease) in the size or location of disturbed areas.
 - (4) Change to BMPs (for example, type, design or location).
 - (5) Change in erosion and sediment control inspector.
- iv. If submission of ESCP revisions is required, submit two paper copies and one electronic PDF to DEQ or Agent within 10 days of the revision. These revisions should be submitted as revised pages of the ESCP or drawings only; it is not necessary to submit the entire ESCP. If the permit registrant does not receive a response to the revisions from DEQ or Agent within 10 days of receipt, the proposed revisions are deemed accepted.
- DEQ or Agent may require the permit registrant to revise the ESCP at any time. The permit registrant
 must submit the revisions according to the timeframe specified by DEQ or Agent.

13. Corrective Actions

- a. Corrective actions are required if any of the following occur:
 - Significant amounts of sediment or turbidity (as described in A.8.b) are visibly detected in: 1) the
 discharge to a conveyance system leading to surface waters; 2) the discharge to surface waters 50
 feet downstream; or 3) the discharge in surface waters at any location where more than one-half of
 the width of the receiving surface waters is affected.
 - ii. The construction activity causes or contributes to a violation of in-stream water quality standards (A.10.a).
 - iii. DEQ or the Agent requires the permit registrant to take corrective actions to prevent or control the discharge of significant amounts of sediment or turbidity to surface waters or to conveyance systems that discharge to surface waters.
- b. If corrective actions are required, the registrant must:
 - i. Immediately, but no later than 24 hours after initial detection, take corrective actions or implement additional effective BMPs until the significant amounts of sediment or turbidity are no longer visually detectable and to ensure that the requirements of Conditions A.8.b and A.10.a are met.
 - ii. Document in the inspection records the corrective actions taken.
 - iii. Evaluate the control measures and practices to determine the cause of the noncompliance. Submit a written report to DEQ or Agent within 10 days of identifying the need to take corrective action as required in condition 13.a above. This report must include:
 - (1) The site common name and DEQ file number.
 - (2) Identification of outfalls that were out of compliance.
 - (3) Names of personnel conducting inspections.
 - (4) A description of the noncompliance and its cause.
 - (5) The period of noncompliance.
 - (6) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance (such as specific BMPs that will be implemented or increased inspection frequency).
 - (7) ESCP revisions, if revisions were required to prevent and control erosion and sediment discharges.

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SCHEDULE B MINIMUM MONITORING AND RECORDKEEPING REQUIREMENTS

1. Inspections

a. The following must be inspected by a designated Erosion and Sediment Control Inspector:

i. All areas of the site disturbed by construction activity to ensure that BMPs are in proper working order.

- ii. Discharge point(s) identified in the ESCP for evidence of or the potential for the discharge of pollutants (including sediment and turbidity), and to ascertain whether erosion and sediment control measures are effective in preventing significant impacts to surface waters. Where discharge points are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practical.
- iii. BMPs identified in the ESCP and any ESCP revisions to assess whether they are functioning properly.

iv. Locations where vehicles enter or exit the site for evidence of off-site sediment tracking.

- v. Areas used for storage of materials that are exposed to precipitation for evidence of spillage or other potential to contaminate stormwater runoff.
- b. All ESCP controls and practices must be inspected visually according to the following schedule:

Site Condition		Minimum Frequency				
1.	Active period	Daily when stormwater runoff, including runoff from snow melt, is occurring.				
		At least once every two (2) weeks, regardless of whether stormwater runoff is occurring.				
2.	Prior to the site becoming inactive or in anticipation of site inaccessibility	Once to ensure that erosion and sediment control measure are in working order. Any necessary maintenance and repair must be made prior to leaving the site.				
3.	Inactive periods greater than fourteen (14) consecutive calendar days	Once every two (2) weeks.				
4.	Periods during which the site is inaccessible due to inclement weather	If practical, inspections must occur daily at a relevant and accessible discharge point or downstream location.				

c. Documentation of inspections.

All inspections must be documented in writing as follows:

- i. Inspection date and inspector's name.
- ii. Observations for each discharge location. If a discharge location is inaccessible due to inclement weather, record the inspections noted at a relevant discharge point or downstream location if practical.

(1) Where to make observations:

- (a) At the discharge location if the discharge is to a conveyance system leading to surface waters;
- (b) From the discharge point to 50 feet downstream if the discharge is to surface waters; and
- (c) At any location where more than one-half of the width of the receiving surface water is affected.
- (2) How to make observations:
 - (a) For turbidity and color, describe any apparent color and the clarity of the discharge, and any apparent difference in comparison with the surface waters.
 - (b) Describe any sheen or floating material, or record that it is absent. If present, it could indicate concern about a possible spill or leakage from vehicles or materials storage.

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iii. Location(s) of BMPs that need to be maintained, inspections of all BMPs, including erosion and sediment controls, chemical and waste controls, locations where vehicles enter and exit the site, status of areas that employ temporary or final stabilization control, soil stockpile area, and non-stormwater pollution (for example, paints, oils, fuels, or adhesives) controls.

- iv. Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
- v. Location(s) where additional BMPs are needed that did not exist at the time of inspection; and
- vi. Corrective action required and implementation dates.

2. Recordkeeping

- a. ESCP and All Revisions Retained Onsite. A copy of the ESCP and all revisions must be retained on site and made available on request to DEQ, Agent, or the local municipality. During inactive periods of greater than seven (7) consecutive calendar days, the ESCP must be retained by the permit registrant but does not need to be at the construction site.
- b. Inspection Results.
 - i. All inspection records must be kept on site and maintained by the permit registrant.
 - ii. During inactive periods of greater than seven (7) consecutive calendar days, the inspection records must be retained by the permit registrant but do not need to be at the construction site.
 - iii. All inspection records must be made available to DEQ, Agent, or local municipality upon request; and must include:
 - (1) The construction site name as it appears on the registrant's permit and the file or site number.
 - (2) All revisions and documentation of reasons for changes or modifications to the ESCP and other corrective measures.
 - (3) Records must be delivered or made available to DEQ or Agent within three (3) working days of request.
 - iv. All inspection records must be retained by the permit registrant for at least three (3) years after project completion.

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SCHEDULE D SPECIAL CONDITIONS

1. Schedule Precedence

In the event of any inconsistency between Schedules A through D and F, Schedules A through D will apply.

2. Other Requirements

Registration under this permit does not relieve the permit registrant from all other permitting and licensing requirements. Prior to beginning construction activities, the permit registrant must obtain all other necessary approvals.

3. Termination of Permit Registration

- a. If the project never started (there was no construction activity and no soil disturbance):
 - i. Complete and submit a Notice of Termination form to DEQ or Agent.
- b. For all construction activity, the following conditions must be met prior to termination:
 - i. All portions of the site for which you are responsible must meet final stabilization criteria (D.3.c.i D.3.c.vi); and
 - ii. For a common plan of development or sale:
 - (1) All portions of the original common plan of development or sale that have been sold must either meet final stabilization criteria (D.3.c.i D.3.c.vi) or be covered by the 1200-C or 1200-CN; and
 - (2) The owner/operator of the common plan must submit an update of the ESCP depicting new site boundaries (based on the sale of portions of the common plan).
- c. Final stabilization is determined by satisfying the following criteria:
 - i. There is no reasonable potential for discharge of a significant amount of construction related sediment or turbidity to surface waters.
 - ii. Construction materials and waste have been removed and disposed of properly. This includes any sediment that was being retained by the temporary erosion and sediment controls.
 - iii. All temporary erosion and sediment controls have been removed and disposed of properly, unless doing so conflicts with local requirements.
 - iv. All soil disturbance activities have stopped and all stormwater discharges from construction activities that are authorized by this permit have ceased.
 - v. All disturbed or exposed areas of the site are fully stabilized as defined in condition D.5.1.
 - vi. All outstanding compliance issues have been resolved.
- d. To terminate permit registration:
 - Submit photo-documentation that depicts site stabilization, unless the site has been inspected by DEQ or Agent; and
 - ii. Complete and submit a Notice of Termination form to DEQ or Agent.

4. Local Public Agencies Acting as DEQ's Agent

DEQ authorizes local public agencies to act as its Agent in implementing this permit if they entered into a Memorandum of Agreement (MOA). The Agent may be authorized to conduct the following activities, including but not limited to: application and ESCP review, inspections, monitoring data review, stormwater monitoring.

5. Permit-specific Definitions

- a. Agent means a governmental entity that has an agreement with DEQ to administer this general permit within their jurisdictional boundaries.
- b. Best Management Practices or BMPs means schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, erosion and sediment control, source

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control, and operating procedures and practices to control site runoff, spillage or leaks, and waste disposal.

- c. Borrow Area means the area from which material is excavated to be used as fill material in another area.
- d. Clean Water Act or CWA means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; USC 1251 et seq.
- e. Conveyance System means a sewer, ditch, or swale that is designed to carry water; or any combination of such components.

f. DEO means the Oregon Department of Environmental Quality.

- g. Detention means the temporary storage of stormwater to improve quality or reduce the volumetric flow rate of discharge or both.
- h. Dewatering means the removal and disposal of surface water or groundwater during site construction.
- i. Discharge Point means the location where stormwater leaves the site. It includes the location where stormwater is discharged to surface water or a stormwater conveyance system.

j. Erosion means the movement of soil particles or rock fragments by water or wind.

- k. Erosion and Sediment Control BMPs means BMPs that are intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, sediment fences, and sediment traps and ponds. Erosion and sediment control BMPs are synonymous with stabilization and structural BMPs.
- Fully Stabilized means the completion of all soil disturbing activities at the site by the permit registrant, and the establishment of a permanent vegetative cover, or equivalent permanent stabilization measures (such as riprap, gabions or geotextiles) to prevent erosion.
- m. *Hazardous Materials* means the materials defined in 40 CFR part 302 Designation, Reportable Quantities, and Notification.

n. Local Government means any county, city, town, or service district.

- National Pollutant Discharge Elimination System or NPDES means the national program under Section 402 of the Clean Water Act for regulation of point source discharges of pollutants to waters of the United States.
- p. Non-Stormwater Pollution Controls means general site and materials management measures that directly or indirectly aid in minimizing the discharge of sediment and other construction related pollutants from the construction site.
- q. Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the NPDES program. Owners or operators may be individuals or other legal entities. Owners or operators of automatically covered construction activities are not permit registrants. Operator for the purpose of this permit and in the context of stormwater associated with construction activity, means any party associated with a construction project that meets either of the following two criteria:
 - (1) The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
 - (2) The party has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a ESCP for the site or other permit conditions (for example, they are authorized to direct workers at a site to carry out activities required by the ESCP or comply with other permit conditions).
- r. Permanent Control Measures means erosion prevention materials designed to provide long-term protection to underlying soils. This may include but not limited to buildings, paving. a uniform (evenly distributed, without large bare areas) perennial vegetative cover, riprap, gabions, or geotextiles.
- s. *Permit Registrant* means the owner or operator of the construction activity regulated by this permit who has submitted an application and received notice of registration under this general permit by DEQ or Agent. Owners or operators of automatically covered construction activities are not permit registrants.
- t. Pollutant as defined in 40 CFR §122.2 means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, soil, cellar dirt and industrial, municipal, and agricultural waste discharge into water. It does not mean sewage from vessels

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within the meaning of section 312 of the FWPCA, nor does it include dredged or fill material discharged in accordance with a permit issued under section 404 of the FWPCA.

- u. Pollution or Water Pollution as defined by ORS 468B.005(3) means such alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, silt or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state, which will or tends to, either by itself or in connection with any other substance, create a public nuisance or which will or tends to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses or to livestock, wildlife, fish or other aquatic life or the habitat thereof.
- Runoff Controls means BMPs that are designed to control the peak volume and flow rate or to prevent scour due to concentrated flows.
- w. Sediment means mineral or organic matter, typically deposited by water, air, or ice.
- x. Site means the area where the construction activity is physically located or conducted.
- y. Stormwater Conveyance means a sewer, ditch, or swale that is designed to carry stormwater; a stormwater conveyance may also be referred to as a storm drain or storm sewer.
- z. Stormwater as defined by 40 CFR §122.26(b)(13) means stormwater runoff, snow melt runoff, and surface runoff and drainage.
- aa. Surface Runoff means that portion of stormwater that does not infiltrate into the ground or evaporate, but instead flows onto adjacent land or watercourses or is routed to stormwater conveyance systems.
- bb. Surface Water means all water naturally open to the atmosphere (for example, rivers, lakes, reservoirs, ponds, streams, impoundments, oceans, estuaries, springs, etc.).
- cc. Total Maximum Daily Load or TMDL means a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet state water quality standards. It is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. Percentages of the TMDL are allocated by DEQ to the various pollutant sources.
- dd. Turbidity means the optical condition of waters caused by suspended or dissolved particles or colloids that scatter and absorb light rays instead of transmitting light in straight lines through the water column. Turbidity may be expressed as nephelometric turbidity units (NTUs) measured with a calibrated turbidity meter.
- ee. Underground Injection Control means any system, structure, or activity that is created to place fluid below the ground or sub-surface (for example, sumps, infiltration galleries, drywells, trench drains, drill holes, etc.)
- ff. Water or Waters of the State as defined by ORS 468B.005(8) means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

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SCHEDULE F NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permit registrant must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025, the Clean Water Act and 40 Code of Federal Regulations (CFR) §122.41(a), and is grounds for enforcement action; for permit termination, revocation and/or reissuance, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

ORS 468.140 allows the Director to impose civil penalties up to \$25,000 per day for violation of a term, condition, or requirement of a permit. ORS 468.943 creates the criminal offense of unlawful water pollution in the second degree, for the criminally negligent violation of ORS chapter 468B or any rule, standard, license, permit or order adopted or issued under ORS chapter 468B. Unlawful water pollution in the second degree is punishable by a fine of up to \$25,000 or imprisonment for not more than one year, or both. In addition, OAR 468.946, creates the offense of unlawful water pollution of the first degree, which is a Class B felony.

3. Duty to Mitigate

The permit registrant must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit. In addition, upon request of the department, the permit registrant must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

4. Duty to Reapply

If the permit registrant wishes to continue an activity regulated by this permit after the expiration date of this permit, the permit registrant must apply for and have the permit registration renewed. The application must be submitted at least 180 days before the expiration date of this permit. The department may grant written permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute
- b. Failure to pay fees when they are due
- c. Obtaining this permit by misrepresentation or failure to disclose fully all material facts
- d. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge
- e. The permit registrant is identified as a Designated Management Agency or allocated a wasteload under a Total Maximum Daily Load (TMDL)
- f. New information or regulations
- g. Modification of compliance schedules
- h. Requirements of permit re-opener conditions
- i. Correction of technical mistakes made in determining permit conditions
- j. Determination that the permitted activity endangers human health or the environment
- k. Other causes as specified in 40 CFR §§122.62, 122.64, and 124.5

DEQ will give permit registrant notice of the right to a contested case hearing in the event DEQ issues a Notice of Revocation, Suspension or Refusal to Renew the permit.

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The filing of a request by the permit registrant for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permit registrant must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rules (OAR) 340-041-0033 for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to persons of property or invasion of any other private rights, nor any infringement of federal, tribal, state, or local laws or regulations.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act and OAR 340-041-0033 for toxic pollutants, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

9. Permit Fees

The permit registrant must pay the fees required by OAR 340-045-0070 to 0075.

The permit registrant must pay annual compliance fees by the last day of the month prior to when the permit was issued. For example, if the permit was issued or last renewed in April, the due date will be March 31st. If the payment of annual fees is 30 days or more past due, the permit registrant must pay 9% interest per annum on the unpaid balance. Interest will accrue until the fees are paid in full. If DEQ does not receive payment of annual fees when they are due, DEQ will refer the account to the Department of Revenue or to a private collection agency for collection.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permit registrant must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permit registrant to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permit registrant only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permit registrant must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permit registrant in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

"Bypass" means intentional diversion of waste streams from any portion of the treatment facility.
 The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded,

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provided the diversion is to allow essential maintenance to assure efficient operation or the diversion is due to nonuse of nonessential treatment units or processes at the treatment facility.

ii. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

i. Bypass is prohibited unless:

(1) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventative maintenance; and

(3) The permit registrant submitted notices and requests as required under General Condition B.3.c.

ii. The department may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the department determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.

- i. Anticipated bypass. If the permit registrant knows in advance of the need for a bypass, a written notice must be submitted to the department at least ten days before the date of the bypass.
- ii. Unanticipated bypass. The permit registrant must submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permit registrant. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of General Condition B.4.c are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance is not final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. A permit registrant who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An upset occurred and that the permit registrant can identify the causes(s) of the upset;

ii. The permitted facility was at the time being properly operated;

- The permit registrant submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
- The permit registrant complied with any remedial measures required under General Condition A.3 hereof.
- d. Burden of proof. In any enforcement proceeding, the permit registrant seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Upset

For purposes of this permit, A Single Operational Upset that leads to simultaneous violations of more than one pollutant parameter will be treated as a single violation. A single operational upset is an exceptional incident that causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission),

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temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational upset does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational upset is a violation.

6. Overflows from Stormwater Conveyance Systems (privately owned)

a. Definitions

- "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system through a designed overflow device or structure, other than discharges to the wastewater treatment facility.
- ii. "Severe property damage" means substantial physical damage to property, damage to the conveyance system which causes it to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.
- iii. "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure.
- b. Prohibition of overflows. Overflows are prohibited unless:
 - i. Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;
 - ii. There were no feasible alternatives to the overflows, such as the use of auxiliary conveyance systems, or maximization of conveyance system storage; and
 - iii. The overflows are the result of an upset as defined in General Condition B.4 and meeting all requirements of this condition.
- c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.
- d. Reporting required. Unless otherwise specified in writing by the department, all overflows and uncontrolled overflows must be reported orally to the department within 24 hours from the time the permit registrant becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the department, the permit registrant must take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering waters of the state, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit, and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points may not be changed without notification to and the approval from the department.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the

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measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than \pm 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit may, upon conviction, be punished by a fine of not more than \$10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.

5. Reporting of Monitoring Results

Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by the department. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permit registrant

If the permit registrant monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 part CFR part 136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value must be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations that require averaging of measurements must utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records

The permit registrant must retain records of all monitoring information, including: all calibration, maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the department at any time.

9. Records Contents

Records of monitoring information must include:

- a. The date, exact place, time, and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

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10. Inspection and Entry

The permit registrant must allow the department or an authorized representative upon the presentation of credentials to:

- a. Enter upon the permit registrant's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permit registrant must comply with OAR chapter 340, division 52, "Review of Plans and Specifications" and 40 CFR §122.41(l)(1). Except where exempted under OAR chapter 340, division 52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers may be commenced until the plans and specifications are submitted to and approved by the department. The permit registrant must give notice to the department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permit registrant must give advance notice to the department of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permit registrant provided the transferre acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit may be transferred to a third party without prior written approval from the department. The department may require modification, revocation, and reissuance of the permit to change the name of the permit registrant and incorporate such other requirements as may be necessary. The permit registrant must notify the department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permit registrant must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permit registrant becomes aware of the circumstances. During normal business hours, the department's Regional office must be called. Outside of normal business hours, the department must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission must also be provided within 5 days of the time the permit registrant becomes aware of the circumstances. Pursuant to ORS 468.959 (3) (a), if the permit registrant is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, delivered written notice must be made to the department or other agency with regulatory jurisdiction within 4 (four) calendar days of the time the permit registrant becomes aware of the circumstances. The written submission must contain:

a. A description of the noncompliance and its cause;

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b. The period of noncompliance, including exact dates and times;

- c. The estimated time noncompliance is expected to continue if it has not been corrected;
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and

e. Public notification steps taken, pursuant to General Condition B.7.

The following must be included as information that must be reported within 24 hours under this paragraph:

- a. Any unanticipated bypass that exceeds any effluent limitation in this permit.
- b. Any upset that exceeds any effluent limitation in this permit.
- Violation of maximum daily discharge limitation for any of the pollutants listed by the department in this permit.
- d. Any noncompliance that may endanger human health or the environment.

The department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permit registrant must report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports must contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permit registrant must furnish to the department within a reasonable time any information that the department may request to determine compliance with this permit. The permit registrant must also furnish to the department, upon request, copies of records required to be kept by this permit.

Other Information: When the permit registrant becomes aware that it has failed to submit any relevant facts or has submitted incorrect information in a permit application or any report to the department, it must promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the department must be signed and certified in accordance with 40 CFR §122.22.

9. Falsification of Information

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed \$100,000 per violation and up to 5 years in prison. Additionally, according to 40 CFR \$122.41(k)(2), any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a federal civil penalty not to exceed \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

10. Changes to Discharges of Toxic Pollutant

The permit registrant must notify the department as soon as it knows or have reason to believe of the following:

a. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:

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i. One hundred micrograms per liter (100 μg/l);

- ii. Two hundred micrograms per liter (200 μg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 μg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
- iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
- iv. The level established by the department in accordance with 40 CFR §122.44(f).
- b. That any activity has occurred or will occur that would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - i. Five hundred micrograms per liter (500 μg/l);
 - ii. One milligram per liter (1 mg/l) for antimony;
 - iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
 - iv. The level established by the department in accordance with 40 CFR §122.44(f).

SECTION E. DEFINITIONS

- Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR §125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
- 2. mg/l means milligrams per liter.
- 3. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
- 4. Month means calendar month.
- 5. Week means a calendar week of Sunday through Saturday.

Permit Registration Information:

Project Location: 6529 NW Front Ave, Portland, Multnomah County, Oregon

Vicinity Map Not to Scale

Latitude: 45.56903

Longitude: -122.746686

Township 1W Range 1N Section 13

ATTENTION EXCAVATORS

Oregon Law requires you to follow rules adopted by the Oregon Utlity Notification Center. Those rules are set forth in OAR 952-001-0090. You may obtain copies of these rules from the center by call 503- Phone: 232-1987. If you have any questions about the rules, you may contact the center. You must notify the center at least two business days, before commencing excavation. Call 503-246-6699.

SHEET INDEX

EROSION AND SEDIMENT CONTROL PLANS

- EROSION AND SEDIMENT CONTROL COVER SHEET
- 2 SITE MAP & INSPECTION REQUIREMENTS
- 3 **EROSION AND SEDIMENT CONTROL DETAILS**
- 4 **EROSION AND SEDIMENT CONTROL DETAILS**
- 5 SITE SURVEY
- CLEARING, GRADING, CAPPING DETAIL

Owner: MMGL Corp. (Formerly SIC)

Contact: Jim Jakubiak

1121 SW Fifth Ave, Suite 2250

Portland, OR 97204

P. 503.265.6376

F. 503.2866948

Planning/Engineering Firm

Bridgewater Group, Inc. Contact: Aaron Leritz 4500 SW Kruse Way, Suite 110

Lake Oswego, OR 97035

P. 503.675.0297 F. 503.675.1960

Narrative Descriptions

Existing Site Conditions

Undeveloped. Site filled with shredder residue that requires capping per DEQ agreement.

Developed Site Conditions

Site graded to specifications. Stormwater management systems installed. No building or other improvements.

Nature of Construction Activity and Estimated Time Table

- Erosion Controls Oct 1 Oct 2, 2013
- Clearing Oct 3 Oct 5, 2013
- Excavation Oct 7 Oct 12, 2013
- Mass Grading Oct 7 Oct 18, 2013 Fence installation Oct 21 - 25, 2013
- Final Stabilization Oct 21 25, 2013

TOTAL SITE AREA (Portion of Tax Lot Subject to DEQ Action) = **3.46 ACRES**

DISTURBED AREA = 2.56 ACRES (includes 0.26 acres City of Portland Right-of-Way.)

SITE SOIL CLASSIFICATION:

50A - Urban Land, 0 to 3 percent slope

The site is mostly fill from unknown sources. It is assumed that onsite soils and shredder residue placed at site have moderate erosion potential. Fill from off-site has not been characterized as the source has not been identified.

RECEIVING WATER BODY

Off-site discharge of stormwater has not been observed at the site. However, construction activites may alter the potential until the final stormwater management features are constructed. If a discharge occurs, it will be discharged to the Willamette River.

NOTE: No engineered facilities or diversion structures required.

PERMITEE'S SITE INSPECTOR: Aaron Leritz

Bridgewater Group Inc.

503.675.0297 (office)

503.703.9690 (mobile)

E-mail: aleritz@bridgeh2o.com

Experience. Mr. Leritz has 20 years of experience in stormwater management, stormwater treatment, installation and maintenance of stormwater BMPs, and erosion and sediment control. Attended an 8 hour training class at NEBC stormwater conference on stormwater management and principles of erosion controls.

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

- 1. Hold a pre-construction meeting of project construction personnel that includes the inspector to discuss erosion and sediment control measures and construction limits. (Schedule A.8.c.i.(3))
- 2. All permit registrants must implement the ESCP. Failure to implement any of the control measures or practices described in the ESCP is a violation of the permit schedule A 8.a)
- 3. Retain a copy of the ESCP and all revisions on site and make it available on request to DEQ, Agent, or the local municipality. During inactive periods of greater than seven (7) consecutive calendar days, retain the ESCP at the construction site or at another location. (Schedule B.2.a)
- 4. The ESCP measures shown on this plan are minimum requirements for anticipated site conditions. During the construction period, upgrade these measures as needed to comply with all applicable local, state, and federal erosion and sediment control regulations. (Schedule A.8.c.ii.(1)(c))
- 5. Submission of all ESCP revisions is not required. Submittal of the ESCP revisions is only under specific conditions. (Schedule A.12.c.iii)
- 6. Phase clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion. (Schedule A 8.c.ii.(1)(d))
- 7. Identify, mark, and protect (by fencing off or other means) critical riparian areas and vegetation including important trees and associated rooting zones, and vegetation areas to be preserved. Identify vegetative buffer zones between the site and sensitive areas (e.g., wetlands), and other areas to be preserved, especially in perimeter areas. (Schedule A.8.c.i.(1) & (2))
- 8. Preserve existing vegetation and re-vegetate open areas when practicable before and after grading or construction. (Schedule A.7.b.iii.(1))
- 9. Erosion and sediment control measures including perimeter sediment control must be in place before vegetation is disturbed and must remain in place and be maintained, repaired, and promptly implemented following procedures established for the duration of construction, including protection for active storm drain inlets and catch basins and appropriate non-stormwater pollution controls. (Schedule A.7.d.i and A.8.c)
- 10. Establish concrete truck and other concrete equipment washout areas before beginning concrete work. (Schedule A.8.c.i.(6))
- 11. Apply temporary and/or permanent soil stabilization measures immediately on all disturbed areas as grading progresses and for all roadways including gravel roadways. (Schedule A.8.c.ii.(2)) 12. Establish material and waste storage areas, and other non-stormwater controls. (Schedule A.8.c.i.(7))
- 13. Prevent tracking of sediment onto public or private roads using BMPs such as: graveled (or paved) exits and parking areas, gravel all unpaved roads located onsite, or use an exit tire wash. These BMPs must be in place prior to land-disturbing activities. (Schedule A 7.d.ii.(1) and A.8.c.i(4))
- 14. When trucking saturated soils from the site, either use water-tight trucks or drain loads on site. (Schedule A.7.d.ii. (3))
- 15. Use BMPs to prevent or minimize stormwater exposure to pollutants from spills; vehicle and equipment fueling, maintenance, and storage; other cleaning and maintenance activities; and waste handling activities. These pollutants include fuel, hydraulic fluid, and other oils from vehicles and machinery, as well as debris, leftover paints, solvents, and glues from construction operations, (Schedule A.7.e.i.(2))
- 16. Water or use a soil-binding agent or other dust control technique as needed to avoid wind-blown soil. (Schedule A 7.b.iii)
- 17. The application rate of fertilizers used to reestablish vegetation must follow manufacturer's recommendations to minimize nutrient releases to surface waters. Exercise caution when using time-release fertilizers within any waterway riparian zone. (Schedule A.9.b.iii)
- 18. If a stormwater treatment system (for example, electro-coagulation, flocculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan (including system schematic, location of system, location of inlet, location of discharge, discharge dispersion device design, and a sampling plan and frequency) before operating the treatment system. Obtain plan approval before operating the treatment system. Operate and maintain the treatment system according to manufacturer's specifications. (Schedule A.9.d.)
- 19. Temporarily stabilize soils at the end of the shift before holidays and weekends, if needed. The registrant is responsible for ensuring that soils are stable during rain events at all times of the year. (Schedule A 7.b)
- 20. Construction activities must avoid or minimize excavation and creation of bare ground during wet weather. (Schedule A.7.a.i)
- 21. Sediment fence: remove trapped sediment before it reaches one third of the above ground fence height and before fence removal. (Schedule A.9.c.i)
- 22. Other sediment barriers (such as biobags): remove sediment before it reaches two inches depth above ground height, and before BMP removal. (Schedule A.9.c.ii)
- 23. Sediment basins and sediment traps: remove trapped sediments before design capacity has been reduced by fifty percent and at completion of project. (Schedule A.9.c.iii & iv)
- 24. Within 24 hours, significant sediment that has left the construction site, must be remediated. Investigate the cause of the sediment release and implement steps to prevent a recurrence of the discharge within the same 24 hours. Any in-stream clean up of sediment shall be performed according to the Oregon Division of State Lands required timeframe. (Schedule A.9.b.i)
- 25. The intentional washing of sediment into storm sewers or drainage ways must not occur. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediments. (Schedule A.9.b.ii)
- 26. The entire site must be temporarily stabilized using vegetation or a heavy mulch layer, temporary seeding, or other method should all construction activities cease for 30 days or more. (Schedule A.7.f.i) 27. Provide temporary stabilization for that portion of the site where construction activities cease for 14 days or more with a covering of blown straw and a tackifier, loose straw, or an adequate
- covering of compost mulch until work resumes on that portion of the site. (Schedule A.7.f.ii) 28. The designated erosion and sediment control inspector must perform daily inspections of the BMPs and discharge outfalls when rainfall and runoff occur. Record the inspections and
- observations in a log that is on site. (Schedule B.1.b(1)) 29. All ESCP controls and practices must be inspected visually once to ensure that BMPs are in working order prior to the site becoming inactive or in anticipation of site inaccessibility and must be
- inspected visually once every two (2) weeks during inactive periods greater than seven (7) consecutive calendar days. (Schedule B.1.b.(2) & (3)) 30. If practical, inspections must occur daily at a relevant and accessible discharge point or downstream location during periods in which the site is inaccessible due to inclement weather.
- 31. Do not remove temporary sediment control practices until permanent vegetation or other cover of exposed areas is established. Identify the type of vegetative seed mix used. (Schedule A
- 32. Provide permanent erosion control measures on all exposed areas. Remove all temporary erosion control measures as exposed areas become stabilized, unless doing so conflicts with local requirements. Properly dispose of construction materials and waste, including sediment retained by temporary BMPs. (Schedule A.8.c.iii)

LOCAL AGENCY-SPECIFIC EROSION CONTROL NOTES:

- 1. Owner or designated person shall be responsible for proper installation and maintenance of all erosion and sediment control measures, in accordance with local, state, and Federal regulations.
- 2. Prior to any land disturbing activities, the boundaries of the clearing limits shown on this plan shall be clearly delineated in the field. During the construction period, no disturbance is permitted beyond the clearing limits. The owner/permittee must maintain the delineation for the duration of the project.
- 3. Prior to any land disturbing activities, the BMPs that must be installed are gravel construction entrance, perimeter sediment control, and inlet protection. These BMPs must be maintained for the duration of the project. 4. Seeding must take place not later than Oct 30th. Additional BMPs may be required to prevent erosion over the winter while seeding is established. Additional seeding may be applied after
- March 1s 5. The ESC Plan must be kept on-site. All measures shown in plan must be installed properly to ensure that sediment or sediment laden water does not enter a surface water system, roadway,
- or other properties. 6. The ESC measures shown on this plan are minimum requirements for anticipated site conditions. During the construction period, these measures shall be upgraded as needed to comply with all applicable local, state, and Federal erosion control regulations. Changes to the approved ESC Plan must be submitted in the form of an action plan to DEQ per the 1200-C permit.
- 7. To prevent wind erosion, appropriate BMPs must be used which may include the application of fine water spraying, plastic sheeting, mulching, or other approved measures.
- 8. All exposed soil must be covered during the wet weather period

THE PERMITTE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200-C PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200C PERMIT REQUIREMENTS. IN CASES OF DISCREPENCIES OR OMISSIONS. THE 1200-C PERMIT REQUIREMENTS

SUPERCEDE REQUIREMENTS OF THIS PLANTY of Portland

DOANE LAKE SOURCE CONTROL NOV 08 2013 JOB NUMBER SIC-025

Fermit Number

REVISIONS:

6.

1. 9/3/13 Initial Development for 1200-C

EROSION AND SEDIMENT CONTROL COVER SHEET

BRIDGEWATER GROUP, INC. 4500 SW KRUSE WAY, SUITE 110 LAKE OSWEGO, OR 97035

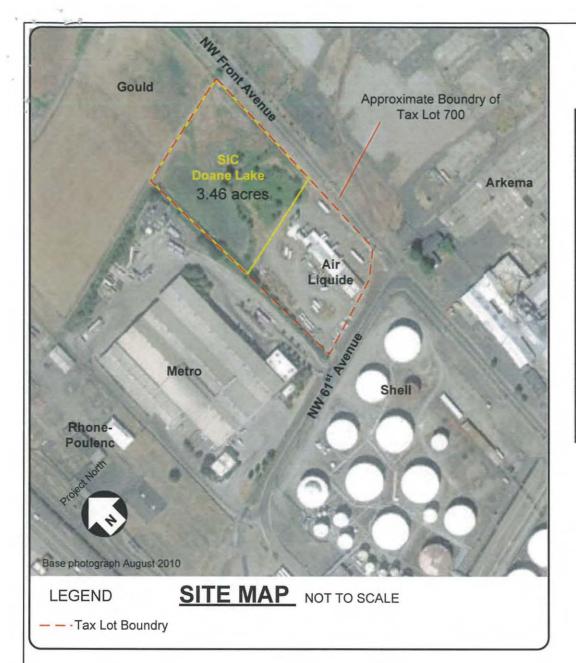
DESIGNED BY: A. Leritz DRAWING NO SCALE: NOT TO SCALE DRAWN BY: A. Leritz HECKED BY: R. Rieke

> Prepared For: MMGL Corp. 1121 SW Fifth Ave. Suite 2250 Portland, OR 97204

MULTNOMAH COUNTY, OREGON TAX LOT: 700

ACTION

SHEET



BMP Matrix Table

	YEAR:	2013						
BMPs	MONTH#:	Sept	Oct	Nov	Dec	Jan		
Check Dams						T		
Temporary Seeding and Planting								
Permanent Seeding and Planting								
Mulches (straw)								
Construction Entrance								
Plastic Sheeting								
Sediment Fencing								
Erosion Control Blankets & Mats (Jute or double net straw)								
Drainage Swales								
Straw Wattles (Loose compaction rice straw)								
Storm Drain Inlet Protection								

SITE CONDITIONS	MINIMUM FREQUENCY						
1. Active Period	Daily when stormwater runoff, including runoff from snowmelt, is occurring. At least once every two (2) weeks regardless of whether stormwater runoff is occurring.						
Prior to the site becoming inactive or in anticipation of site inaccessibility.	Once to ensure that erosion sediment control measures are in working order. Any necessary maintenance and repair must be made prior to leaving the site.						
Inactive periods greater than fourteen (14) consecutive calendar days.	Once every two (2) weeks.						
 Periods during which the site is inaccessible due to inclement weather. 	If practical, inspections must occur daily at a relevant and accessible discharge point or downstream location.						

City of Portland REVIEWED FOR CODE COMPLIANCE

NOV 08 2013

Permit Number

REVISIONS:

1. 9/3/13 Initial Development for 1200-C

SITE MAP & INSPECTION REQUIREMENTS

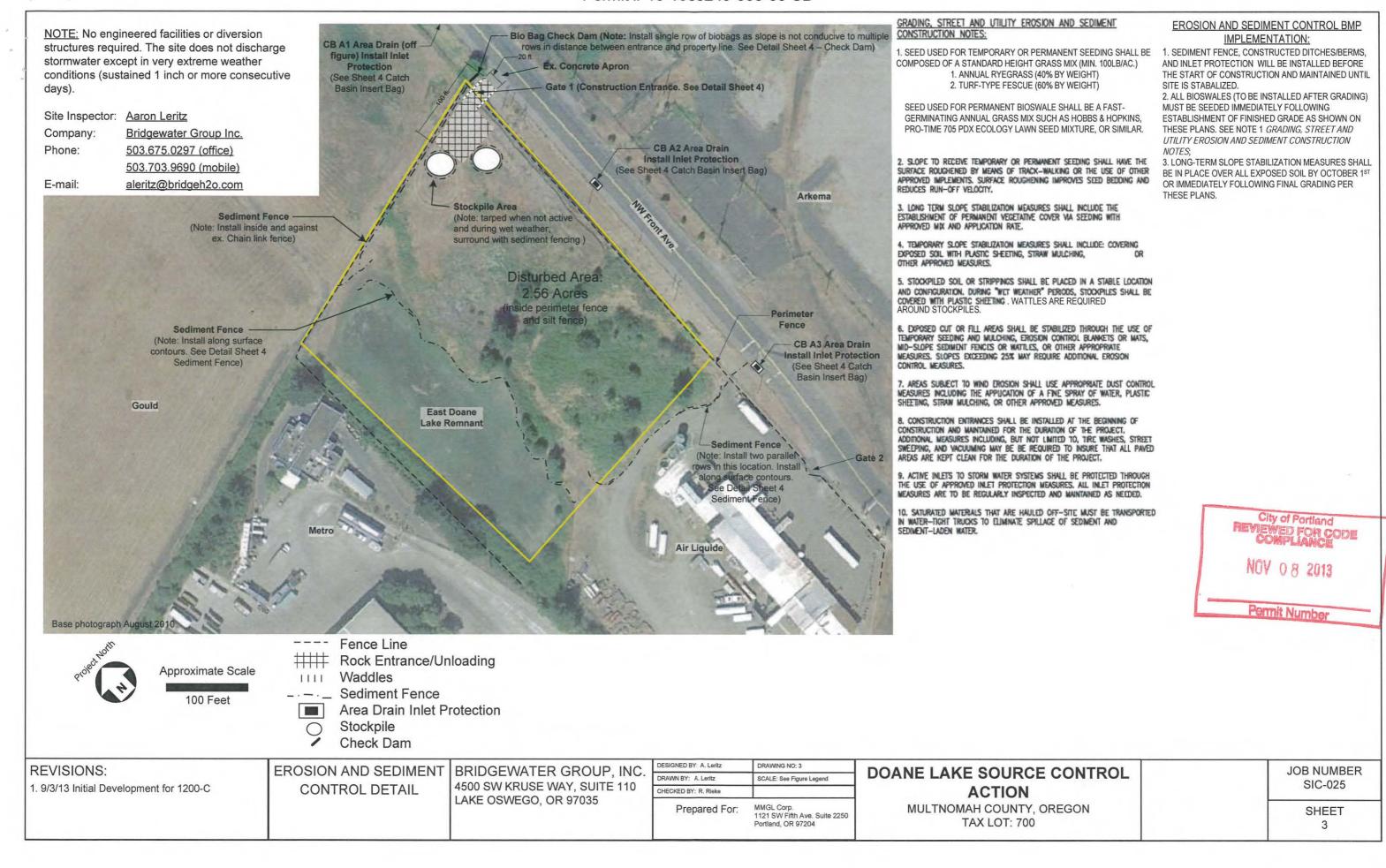
BRIDGEWATER GROUP, INC. 4500 SW KRUSE WAY, SUITE 110 LAKE OSWEGO, OR 97035

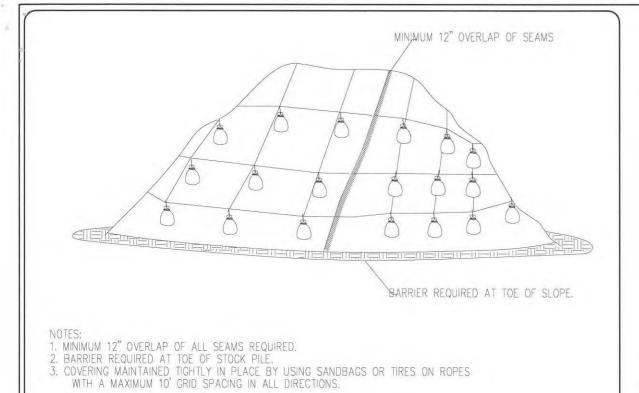
	DESIGNED BY: A. Leritz	DRAWING NO: 2					
	DRAWN BY; A, Leritz	SCALE: NOT TO SCALE					
	CHECKED BY: R. Rieke						
	Prepared For:	MMGL Corp. 1121 SW Fifth Ave. Suite 2250 Portland, OR 97204					

DOANE LAKE SOURCE CONTROL ACTION

MULTNOMAH COUNTY, OREGON TAX LOT: 700 JOB NUMBER SIC-025 SHEET

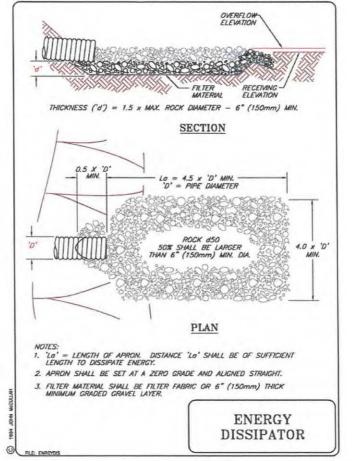
2

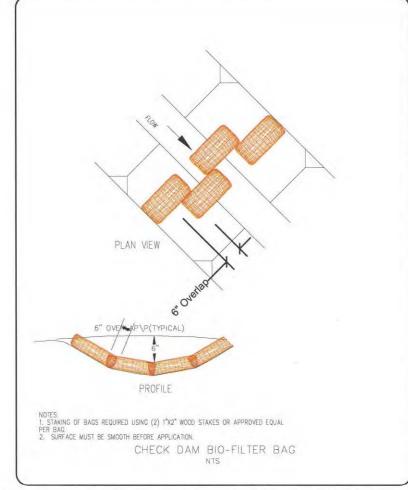


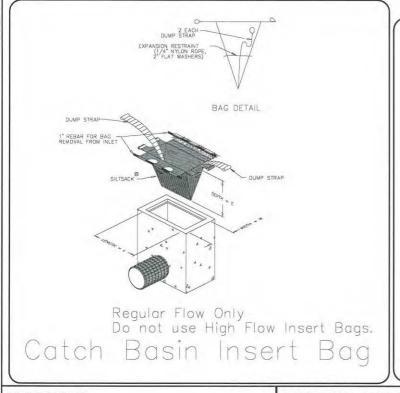


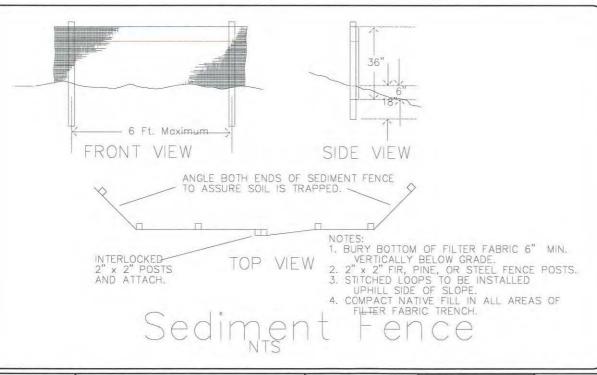
PLASTIC SHEETING

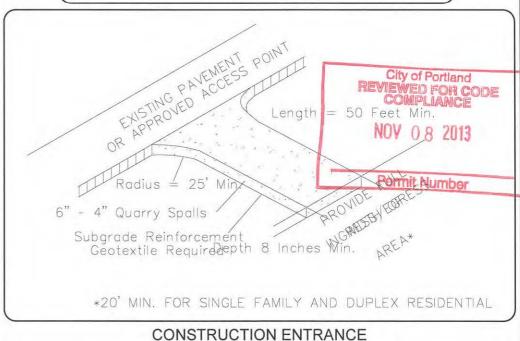
NTS











REVISIONS:

1. 9/3/13 Initial Development for 1200-C

EROSION AND SEDIMENT CONTROL DETAIL

BRIDGEWATER GROUP, INC. 4500 SW KRUSE WAY, SUITE 110 LAKE OSWEGO, OR 97035

DESIGNED BY: A. Leritz DRAWING NO: 3

DRAWN BY: A Leritz SCALE: Not To Scale

CHECKED BY: R. Rieke

Prepared For: MMGL Corp.
1121 SW Fifth Ave. Suite 2250
Portland, OR 97204

DOANE LAKE SOURCE CONTROL ACTION

MULTNOMAH COUNTY, OREGON TAX LOT: 700 JOB NUMBER SIC-025

SHEET 4

Appendix C

Site Photographs

Doane Lake Source Control Photograph Log



Example of vegetation and trees on northern portion of Site.



Example of trees and vegetation on southern portion of Site

Doane Lake Source Control Photograph Log



Area 2 initial grading and fence removal. Preparing for ROW excavation



Site during grubbing and vegetation removal



Site after grubbing and rough grading



Pole Wrap (pole 8'). Finish excavation depth with Knife River clean quarry material backfill in left of photograph. Surface water intrusion in the excavation from entrance of Site.



Excavation around power poles 24', 42', and light pole 47' that was limited to 2.5 feet bgs



City ROW at 40+00, blue arrow points to transition from affected soil to silty sand at 3 feet bgs



Contaminant barrier as 210+00. Excavation exceeded 5 feet bgs resulting in groundwater intrusion



East sidewall at 300+00. Example of material left in place beneath NW Front Ave. Blue arrow indicates point of transition from road fill with SR fragments to silty sand approximately 2 feet bgs.



Excavation at 332+00. Material left around pole 332'



Example of black sand encountered near entrance at -20+00 to -40+00 at 3 feet bgs



Excavation at -20+00. East sidewall transition (blue arrow) from soil with residual SR to black sand resembling foundry sand.



Example of Knife River clean quarry material and contaminant barrier (plastic sheeting) near entrance (-20+00)



Finished grade at entrance prior to rebuilding construction entrance





Completed City ROW looking north from station 200+00, prior to topsoil placement and hydro-seeding



Completed City ROW looking south from station 200+00, prior to top soil placement and hydro-seeding



Completed City ROW looking south from 300+00, prior to top soil placement and hydro-seeding. Soil excavated from ROW being graded in left of photograph



Grading excavated soil relocated from City ROW



Placement of geotextile fabric and initial cap layer (clean quarry material)



Close-up of geotextile fabric and initial cap layer (clean quarry material)



Placement of geotextile fabric and initial layer of cap (clean quarry material)



Placement of geotextile fabric and initial layer of cap (clean quarry material)



Final Cap during hydro seeding. Looking south toward Air Liquide



Completed Site with fence. Looking northwest from NW Front Ave.



Completed Site entrance and locked gate. Looking southwest.

Appendix D Wood Debris and Waste Disposal Tip Receipts

Portland, OR 97208

Γicket # 520,330 5/19/14 9:42 am

Fruck 7411E1 / Munitor 1

Cust ID 3406 / Munitor Construction

Order Number

Order

Gross: 14960 lb

Tare: 13560 lb

Net: 1400 lb

0.70 tn

In Yard/Brush Waste

Mat ID YW 0.70 Tons

Portland, OR 97208

Γicket # 520,320 5/19/14 8:57 am

Fruck 7411E1 / Munitor 1

Cust ID 3406 / Munitor Construction

Order Number

Order

Gross:

15140 lb

Tare:

13600 lb

Net:

1540 lb

0.77 tn

In Yard/Brush Waste

Mat ID YW

0.77 Tons

Portland, OR 97208

Γicket # 520,309 5/19/14 8:07 am

Fruck 7411E1 / Munitor 1

Cust ID 3406 / Munitor Construction

Order Number

Order

Gross: 15180 lb

Tare: 13600 lb

Net: 1580 lb 0.79 tn

In Yard/Brush Waste

Mat ID YW 0.79 Tons

Portland, OR 97208

Γicket # 520,340 5/19/14 10:23 am

Γruck 7411E1 / Munitor 1

Cust ID 3406 / Munitor Construction

Order Number

Order

Gross: 16020 lb

Tare: 13580 lb

Net: 2440 lb 1.22 tn

In Yard/Brush Waste

Mat ID YW 1.22 Tons

Portland, OR 97208

Γicket # 520,351

5/19/14 11:06 am

Fruck 7411E1 / Munitor 1

Cust ID 3406 / Munitor Construction

Order Number

Order

Gross:

15560 lb

Tare:

13560 lb

Net:

2000 lb

1.00 tn

In Yard/Brush Waste

Mat ID YW

1.00 Tons

Portland, OR 97208

Γicket # 520,371 5/19/14 12:48 pm

Γruck 7411E1 / Munitor 1

Cust ID 3406 / Munitor Construction

Order Number

Order

Gross: 14540 lb

Tare: 13560 lb

Net: 980 lb 0.49 tn

In Yard/Brush Waste

Mat ID YW 0.49 Tons

Portland, OR 97208

Γicket # 520,361

5/19/14 12:04 pm

Γruck 7411E1 / Munitor 1

Cust ID 3406 / Munitor Construction

Order Number

Order

Gross:

15940 lb

Tare:

13560 lb

Net:

2380 lb

1.19 tn

In Yard/Brush Waste

Mat ID YW

1.19 Tons

ortland, OR 97208

Γicket # 520,379 5/19/14 1:44 pm

Fruck 7411E1 / Munitor 1

Cust ID 3406 / Munitor Construction

Order Number

Order

Gross: 16780 lb

Tare: 13580 lb

Net: 3200 lb 1.60 tn

In Yard/Brush Waste

Mat ID YW 1.60 Tons

PQ Box 4483 Portland, OR 97208



Scale Invoice No:521855 Date :6/10/14 Phone :(503)683-2755 greenwaybusiness@gmail.com

omer:

3406

Iviunitor Construction



Truck :

7411E1

Munitor 1

16140 13600

Scale 1 lb lb Scale 2

7:37 am In 7:46 am Out

Net:

Tare:

Gross:

2540 lb 1.270 tn

Weigh Master:

AUTO

Remarks:

Material \$ Delivery \$ Misc \$

0.00 3.00

Tax \$

0.00

Total \$

Signature:

MATERIAL

QTY

UNIT-\$

DELIVERY-\$

MISC-\$

TAX-\$

TOTAL-\$

In Yard/Brush Waste

1.270 tn



\$



Total Greenway Tonnage = 9.03 tn

Waste Management Customer Summary Report

Criteria: 05/22/2014 12:00 AM to 08/11/2014 11:59 PM Business Unit Name: Hillsboro Landfill - S03305 (USA) Date: Aug 11 2014, 3:57:33 PM - Central Standard Time Profile: 1155370

Ticket Date	Ticket ID	MAS Unique ID	Customer	Generator	Profile	Material	Origin	Tons	Material Revenue	Ta Revenu
5/22/2014	1348198	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Profile Set-up		(\$0.00	\$0.00
Material Total	1							(\$0.00	\$0.00
5/23/2014	1348218	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	4.94		\$0.00
5/23/2014	1348238	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	3.77		\$0.00
5/23/2014	1348254	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	5.15		\$0.00
5/23/2014	1348272	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	5.26		\$0.00
6/2/2014	1348783	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	4.2		\$0.00
6/2/2014	1348807	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	5.5		\$0.00
6/2/2014	1348831	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	5.41		\$0.00
6/2/2014	1348867	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	5.33		\$0.00
6/3/2014	1348892	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	6.44		\$0.00
6/3/2014	1348919	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	4.7		\$0.00
6/3/2014	1348942	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	4.95		\$0.00
6/4/2014	1349001	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	6.51		\$0.00
6/4/2014	1349043	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	5.14		\$0.00
6/4/2014	1349073	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	4.51		\$0.00
6/5/2014	1349133	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	6.36		\$0.00
6/5/2014	1349175	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	5.84		\$0.00
6/11/2014	1350522	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	5.66		\$0.00
6/11/2014	1350525	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	5.01		\$0.00
6/12/2014	1350526	113220603002	MUNITOR CONSTRUCTION LLC	OR-MMGL CORP 6529 FRONT AVE	115537OR	Special Misc-Tons	MULT-IN	3.36		\$0.00
Material Total	19)						98.04		\$0.00
Customer Total	20)						98.04		\$0.00
Ticket Totals	20)						98.04		\$0.00
External Customer	Loads	Tons	s Total Ticket Amount							

External Customer	Loads	Tons	Total Ticket Amount
MUNITOR CONSTRUCTION LLC	20	98.04	

Appendix E

Laboratory Analytical Report

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Tuesday, August 5, 2014

Aaron Leritz Bridgewater Group 4500 SW Kruse Way; Suite 110 Lake Oswego, OR 97035

RE: Doane Lake Soil Cap Source / SIC-025

Enclosed are the results of analyses for work order <u>A4E0393</u>, which was received by the laboratory on 5/15/2014 at 3:30:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
140515-25 Floor	A4E0393-03	Soil	05/15/14 12:05	05/15/14 15:30
140515-125 ESW1	A4E0393-04	Soil	05/15/14 12:20	05/15/14 15:30
140515-125 ESW4	A4E0393-05	Soil	05/15/14 12:30	05/15/14 15:30
140515-125 Floor	A4E0393-06	Soil	05/15/14 12:45	05/15/14 15:30
140515-225 ESW4	A4E0393-08	Soil	05/15/14 13:05	05/15/14 15:30
140515-225 Floor	A4E0393-09	Soil	05/15/14 13:20	05/15/14 15:30
140515-325 Floor	A4E0393-12	Soil	05/15/14 13:45	05/15/14 15:30
140515-SSW4	A4E0393-14	Soil	05/15/14 14:00	05/15/14 15:30
140527-360' SSW1	A4E0674-03	Soil	05/27/14 15:55	05/28/14 07:04
140527-32' Pole LIP	A4E0674-04	Soil	05/27/14 16:10	05/28/14 07:04
140528 - 225ESW16in	A4E0704-01	Soil	05/28/14 14:55	05/28/14 16:52
140528 - 225ESW27in	A4E0704-02	Soil	05/28/14 15:00	05/28/14 16:52
140528 - 325 ESW4'	A4E0704-05	Soil	05/28/14 15:30	05/28/14 16:52
140530-318'Pole Lip	A4E0758-01	Soil	05/30/14 08:10	05/30/14 12:07
140530-332'Pole 3 Lip	A4E0758-02	Soil	05/30/14 08:15	05/30/14 12:07
140529-251'Light Pole Lip	A4E0758-03	Soil	05/29/14 09:25	05/30/14 12:07
140529-176'Pole 2 Lip	A4E0758-04	Soil	05/29/14 06:30	05/30/14 12:07
140530-325ESW1	A4E0765-01	Soil	05/30/14 09:30	05/30/14 12:14
140609-25 ESW1'	A4F0188-01	Soil	06/09/14 08:30	06/09/14 14:45
140609-25 ESW4'	A4F0188-02	Soil	06/09/14 08:35	06/09/14 14:45
140609-20 Floor Lip	A4F0188-03	Soil	06/09/14 10:00	06/09/14 14:45
140609- NSW1'	A4F0188-04	Soil	06/09/14 13:20	06/09/14 14:45
140609- NSW4'	A4F0188-05	Soil	06/09/14 13:25	06/09/14 14:45
140609-20 ESW1' Lip	A4F0188-06	Soil	06/09/14 13:50	06/09/14 14:45
140609-20 ESW4' Lip	A4F0188-07	Soil	06/09/14 13:53	06/09/14 14:45

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Polyc	hlorinated Bi	phenyls by EP	A 8082A			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140515-25 Floor (A4E0393-03)			Matrix: Soil	Ва	atch: 40504	165		C-07
Aroclor 1016	ND		24.4	ug/kg dry	1	05/16/14 13:17	EPA 8082A	
Aroclor 1221	ND		24.4	"	"	"	"	
Aroclor 1232	ND		24.4	"	"	"	"	
Aroclor 1242	ND		24.4	"	"	"	"	
Aroclor 1248	ND		24.4	"	"	"	"	
Aroclor 1254	ND		24.4	"	"	"	"	
Aroclor 1260	ND		24.4	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)		Re	ecovery: 113 %	Limits: 72-126 %	"	"	"	
140515-125 ESW1 (A4E0393-04)			Matrix: Soil	Ва	atch: 40504	165		C-07
Aroclor 1016	ND		21.6	ug/kg dry	1	05/16/14 11:27	EPA 8082A	
Aroclor 1221	ND		21.6	"	"	"	"	
Aroclor 1232	ND		21.6	"	"	"	"	
Aroclor 1242	ND		21.6	"	"	"	"	
Aroclor 1248	ND		21.6	"	"	"	"	
Aroclor 1254	ND		21.6	"	"	"	"	
Aroclor 1260	ND		21.6	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)		Re	ecovery: 101 %	Limits: 72-126 %	"	"	"	
140515-125 ESW4 (A4E0393-05)			Matrix: Soil	Ва	atch: 40504	165		C-07
Aroclor 1016	ND		26.2	ug/kg dry	1	05/16/14 11:46	EPA 8082A	
Aroclor 1221	ND		26.2	"	"	"	"	
Aroclor 1232	ND		26.2	"	"	"	"	
Aroclor 1242	ND		26.2	"	"	"	"	
Aroclor 1248	ND		26.2	"	"	"	"	
Aroclor 1254	ND		26.2	"	"	"	"	
Aroclor 1260	ND		26.2	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)		F	Recovery: 98 %	Limits: 72-126 %	"	"	"	
140515-125 Floor (A4E0393-06)			Matrix: Soil	Ва	atch: 40504	165		C-07
Aroclor 1016	ND		21.9	ug/kg dry	1	05/16/14 12:04	EPA 8082A	
Aroclor 1221	ND		21.9	"	"	"	"	
Aroclor 1232	ND		21.9	"	"	"	"	
Aroclor 1242	ND		21.9	"	"	"	"	
Aroclor 1248	ND		21.9	"	"	"	"	
Aroclor 1254	ND		21.9	"	"	"	"	
Aroclor 1260	ND		21.9	"	"	"	"	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Polyc	hlorinated Bip	henyls by EP	A 8082A			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
140515-125 Floor (A4E0393-06)			Matrix: Soil		atch: 40504	65		C-07
Surrogate: Decachlorobiphenyl (Surr)		R	ecovery: 97 % L	imits: 72-126 %	1	"	EPA 8082A	
140515-225 ESW4 (A4E0393-08)			Matrix: Soil	Ва	atch: 40504	65		C-07
Aroclor 1016	ND		27.0	ug/kg dry	1	05/16/14 12:59	EPA 8082A	
Aroclor 1221	ND		27.0	"	"	"	"	
Aroclor 1232	ND		27.0	"	"	"	"	
Aroclor 1242	ND		27.0	"	"	"	"	
Aroclor 1248	ND		27.0	"	"	"	"	
Aroclor 1254	ND		27.0	"	"	"	"	
Aroclor 1260	ND		27.0	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)		R	ecovery: 91 % L	imits: 72-126 %	"	"	"	
140515-225 Floor (A4E0393-09)			Matrix: Soil	Ва	atch: 40504	65		C-07
Aroclor 1016	ND		24.5	ug/kg dry	1	05/16/14 13:17	EPA 8082A	
Aroclor 1221	ND		24.5	"	"	"	"	
Aroclor 1232	ND		24.5	"	"	"	"	
Aroclor 1242	ND		24.5	"	"	"	"	
Aroclor 1248	ND		24.5	"	"	"	"	
Aroclor 1254	ND		24.5	"	"	"	"	
Aroclor 1260	ND		24.5	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)		R	ecovery: 94 % L	imits: 72-126 %	"	"	"	
140515-325 Floor (A4E0393-12)			Matrix: Soil	Ва	atch: 40504	65		C-07
Aroclor 1016	ND		21.5	ug/kg dry	1	05/16/14 15:41	EPA 8082A	
Aroclor 1221	ND		21.5	"	"	"	"	
Aroclor 1232	ND		21.5	"	"	"	"	
Aroclor 1242	ND		21.5	"	"	"	"	
Aroclor 1248	ND		21.5	"	"	"	"	
Aroclor 1254	ND		21.5	"	"	"	"	
Aroclor 1260	ND		21.5	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)		R	ecovery: 98 % L	imits: 72-126 %	"	"	"	
140515-SSW4 (A4E0393-14RE1)			Matrix: Soil	Ва	atch: 40504	65		C-07
Aroclor 1016	ND		24.1	ug/kg dry	1	05/16/14 15:41	EPA 8082A	
Aroclor 1221	ND		24.1	"	"	"	"	
Aroclor 1232	ND		24.1	"	"	"	"	
Aroclor 1242	ND		24.1	"	"	"	"	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Polych	norinated Bi	phenyls by EP	A 8082A			
A 1.4	Dagult	MDI	Reporting		Dil 4	D (A 1 1	M-41 J	N-4
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140515-SSW4 (A4E0393-14RE			Matrix: Soil		tch: 40504			C-0
Aroclor 1248	ND		24.1	ug/kg dry "	1	"	EPA 8082A	
Aroclor 1254	ND		24.1	"		"	"	
Aroclor 1260	ND		24.1	"				
Surrogate: Decachlorobiphenyl ((Surr)	Red	covery: 115 %	Limits: 72-126 %	"	"	"	
140527-360' SSW1 (A4E0674-	03)		Matrix: Soil	Ва	tch: 40507	57		C-0
Aroclor 1016	ND		23.0	ug/kg dry	1	05/28/14 16:10	EPA 8082A	
Aroclor 1221	ND		23.0	"	"	"	"	
Aroclor 1232	ND		23.0	"	"	"	"	
Aroclor 1242	ND		23.0	"	"	"	"	
Aroclor 1248	ND		23.0	"	"	"	"	
Aroclor 1254	ND		23.0	"	"	"	"	
Aroclor 1260	ND		23.0	"	"	"	"	
Surrogate: Decachlorobiphenyl ((Surr)	Rec	covery: 102 %	Limits: 72-126 %	"	"	"	
140527-32' Pole LIP (A4E0674	1-04RE1)		Matrix: Soil	Ва	tch: 40507	57		C-0
Aroclor 1016	ND		43.0	ug/kg dry	2	05/28/14 17:42	EPA 8082A	
Aroclor 1221	ND		43.0	"	"	"	"	
Aroclor 1232	ND		43.0	"	"	"	"	
Aroclor 1242	155		43.0	"	"	"	"	P-10
Aroclor 1248	ND		43.0	"	"	"	"	
Aroclor 1254	580		43.0	"	"	"	"	P-10
Aroclor 1260	348		43.0	"	"	"	"	P-10
Surrogate: Decachlorobiphenyl ((Surr)	Re	ecovery: 88 %	Limits: 72-126 %	"	"	"	
140528 - 225ESW16in (A4E07	04-01RE1)		Matrix: Soil	Ва	tch: 40507	57		C-0
Aroclor 1016	ND		41.8	ug/kg dry	2	05/29/14 10:22	EPA 8082A	
Aroclor 1221	ND		41.8	"	"	"	"	
Aroclor 1232	ND		41.8	"	"	"	"	
Aroclor 1242	77.5		41.8	"	"	"	"	P-10
Aroclor 1248	ND		41.8	"	"	"	"	
Aroclor 1254	1400		41.8	"	"	"	"	P-10
Aroclor 1260	1880		41.8	"	"	"	"	P-10
Surrogate: Decachlorobiphenyl ((Surr)	Re	ecovery: 99 %	Limits: 72-126 %	"	"	"	
140528 - 225ESW27in (A4E07	(04-02)		Matrix: Soil	Ва	tch: 40507	57		C-0
Aroclor 1016	ND		21.1	ug/kg dry	1	05/29/14 09:46	EPA 8082A	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Polyci	iioiiiiateu E	Siphenyls by EP	A 6062A			
	D 4	MDI	Reporting		75.77		N. 4 . 1	N
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140528 - 225ESW27in (A4E	·		Matrix: So		tch: 40507			C-0
Aroclor 1221	ND		21.1	ug/kg dry	1	"	EPA 8082A	
Aroclor 1232	ND		21.1	"	"	"	"	
Aroclor 1242	ND		21.1	"	"	"	"	
Aroclor 1248	ND		21.1	"	"	"	"	
Aroclor 1254	ND		21.1	"	"	"	"	
Aroclor 1260	ND		21.1	"	"	"	"	
Surrogate: Decachlorobipheny	vl (Surr)	Rec	covery: 104 %	Limits: 72-126 %	"	"	"	Q-41
140528 - 325 ESW4' (A4E07	(04-05)		Matrix: So	il Ba	tch: 40507	57		C-0
Aroclor 1016	ND		22.3	ug/kg dry	1	05/29/14 10:22	EPA 8082A	
Aroclor 1221	ND		22.3	"	"	"	"	
Aroclor 1232	ND		22.3	"	"	"	"	
Aroclor 1242	ND		22.3	"	"	"	"	
Aroclor 1248	ND		22.3	"	"	"	"	
Aroclor 1254	ND		22.3	"	"	"	"	
Aroclor 1260	ND		22.3	"	"	"	"	
Surrogate: Decachlorobipheny	vl (Surr)	Re	ecovery: 97 %	Limits: 72-126 %	"	"	"	Q-41
140530-318'Pole Lip (A4E07	758-01RE2)		Matrix: So	il Ba	atch: 40601	13		C-0
Aroclor 1016	ND		20.4	ug/kg dry	1	06/06/14 10:45	EPA 8082A	
Aroclor 1221	ND		20.4	"	"	"	"	
Aroclor 1232	ND		20.4	"	"	"	"	
Aroclor 1242	ND		20.4	"	"	"	"	
Aroclor 1248	ND		20.4	"	"	"	"	
Aroclor 1254	ND		20.4	"	"	"	"	
Aroclor 1260	ND		20.4	"	"	"	"	
Surrogate: Decachlorobipheny	yl (Surr)	Re	ecovery: 82 %	Limits: 72-126 %	"	"	"	
140530-332'Pole 3 Lip (A4E	0758-02RE1)		Matrix: So	il Ba	atch: 40600	14		C-0
Aroclor 1016	ND		22.2	ug/kg dry	1	06/03/14 11:15	EPA 8082A	
Aroclor 1221	ND		22.2	"	"	"	"	
Aroclor 1232	ND		22.2	"	"	"	"	
Aroclor 1242	ND		22.2	"	"	"	"	
Aroclor 1248	ND		22.2	"	"	"	"	
Aroclor 1254	ND		22.2	"	"	"	"	
Aroclor 1260	ND		22.2	"	"	"	"	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Polyc	hlorinated Biph	enyls by EP	A 8082A			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140530-332'Pole 3 Lip (A4E	E0758-02RE1)		Matrix: Soil	Ва	tch: 40600	14		C-07
Surrogate: Decachlorobiphen	nyl (Surr)	R	ecovery: 74 % Li	mits: 72-126 %	1	"	EPA 8082A	
140529-251'Light Pole Lip	(A4E0758-03)		Matrix: Soil	Ва	atch: 40600	14		C-07
Aroclor 1016	ND		45.8	ug/kg dry	1	06/03/14 10:52	EPA 8082A	
Aroclor 1221	ND		45.8	"	"	"	"	
Aroclor 1232	ND		45.8	"	"	"	"	
Aroclor 1242	134		45.8	"	"	"	"	P-10
Aroclor 1248	ND		45.8	"	"	"	"	
Aroclor 1254	2130		45.8	"	"	"	"	P-10
Aroclor 1260	1570		45.8	"	"	"	"	P-10
Surrogate: Decachlorobiphen	ıyl (Surr)	Re	covery: 109 % Li	mits: 72-126 %	"	"	"	Q-41
140529-176'Pole 2 Lip (A4E	E0758-04)		Matrix: Soil	Ва	atch: 40600	14		C-07
Aroclor 1016	ND		21.6	ug/kg dry	1	06/03/14 10:34	EPA 8082A	
Aroclor 1221	ND		21.6	"	"	"	"	
Aroclor 1232	ND		21.6	"	"	"	"	
Aroclor 1242	ND		21.6	"	"	"	"	
Aroclor 1248	ND		21.6	"	"	"	"	
Aroclor 1254	60.7		21.6	"	"	"	"	P-10
Aroclor 1260	49.5		21.6	"	"	"	"	P-10
Surrogate: Decachlorobiphen	ıyl (Surr)	Re	covery: 100 % Li	mits: 72-126 %	"	"	"	Q-41
140530-325ESW1 (A4E076	5-01)		Matrix: Soil	Ва	tch: 40600	14		C-07
Aroclor 1016	ND		21.7	ug/kg dry	1	06/03/14 09:46	EPA 8082A	
Aroclor 1221	ND		21.7	"	"	"	"	
Aroclor 1232	ND		21.7	"	"	"	"	
Aroclor 1242	ND		21.7	"	"	"	"	
Aroclor 1248	ND		21.7	"	"	"	"	
Aroclor 1254	110		21.7	"	"	"	"	P-10
Aroclor 1260	105		21.7	"	"	"	"	P-10
Surrogate: Decachlorobiphen	ıyl (Surr)	Re	ecovery: 115 % Li	mits: 72-126 %	"	u u	n	Q-41
140609-25 ESW1' (A4F0188	8-01)		Matrix: Soil	Ва	atch: 40602	74		C-07
Aroclor 1016	ND		20.5	ug/kg dry	1	06/11/14 22:03	EPA 8082A	
Aroclor 1221	ND		20.5	"	"	"	"	
Aroclor 1232	ND		20.5	"	"	"	"	
Aroclor 1242	ND		20.5	"	"	"	"	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Polyc	hlorinated Bi	phenyls by EP	A 8082A			
			Reporting	-				
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140609-25 ESW1' (A4F0188-01)			Matrix: Soil	В	atch: 40602	74		C-07
Aroclor 1248	ND		20.5	ug/kg dry	1	"	EPA 8082A	
Aroclor 1254	650		20.5	"	"	"	"	P-10
Aroclor 1260	381		20.5	"	"	"	"	P-10
Surrogate: Decachlorobiphenyl (Surr)		R	Recovery: 81 %	Limits: 72-126 %	"	"	"	
140609-25 ESW4' (A4F0188-02)			Matrix: Soil	В	atch: 40602	74		C-07
Aroclor 1016	ND		21.1	ug/kg dry	1	06/11/14 22:21	EPA 8082A	
Aroclor 1221	ND		21.1	"	"	"	"	
Aroclor 1232	ND		21.1	"	"	"	"	
Aroclor 1242	ND		21.1	"	"	"	"	
Aroclor 1248	ND		21.1	"	"	"	"	
Aroclor 1254	398		21.1	"	"	"	"	P-10
Aroclor 1260	258		21.1	"	"	"	"	P-10
Surrogate: Decachlorobiphenyl (Surr)		R	Recovery: 82 %	Limits: 72-126 %	"	п	"	
140609-20 Floor Lip (A4F0188-03)			Matrix: Soil	Ва	atch: 40602	74		C-07
Aroclor 1016	ND		21.2	ug/kg dry	1	06/11/14 22:40	EPA 8082A	
Aroclor 1221	ND		21.2	"	"	"	"	
Aroclor 1232	ND		21.2	"	"	"	"	
Aroclor 1242	ND		21.2	"	"	"	"	
Aroclor 1248	ND		21.2	"	"	"	"	
Aroclor 1254	ND		21.2	"	"	"	"	
Aroclor 1260	ND		21.2	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)		R	Recovery: 82 %	Limits: 72-126 %	"	n .	"	
140609- NSW1' (A4F0188-04)			Matrix: Soil	Ва	atch: 40602	74		C-07
Aroclor 1016	ND		23.6	ug/kg dry	1	06/11/14 22:58	EPA 8082A	
Aroclor 1221	ND		23.6	"	"	"	"	
Aroclor 1232	ND		23.6	"	"	"	"	
Aroclor 1242	ND		23.6	"	"	"	"	
Aroclor 1248	ND		23.6	"	"	"	"	
Aroclor 1254	ND		23.6	"	"	"	"	
Aroclor 1260	ND		23.6	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)		R	Recovery: 75 %	Limits: 72-126 %	"	"	"	
140609- NSW4' (A4F0188-05)			Matrix: Soil	Ва	atch: 40602	74		C-07
Aroclor 1016	ND		23.4	ug/kg dry	1	06/11/14 23:16	EPA 8082A	

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Bridgewater Group Project: Doane Lake Soil Cap Source

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Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Polych	lorinated B	iphenyls by EP	A 8082A			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140609- NSW4' (A4F0188-05)			Matrix: So	I Ba	tch: 40602	74		C-0
Aroclor 1221	ND		23.4	ug/kg dry	1	"	EPA 8082A	
Aroclor 1232	ND		23.4	"	"	"	"	
Aroclor 1242	ND		23.4	"	"	"	"	
Aroclor 1248	ND		23.4	"	"	"	"	
Aroclor 1254	61.3		23.4	"	"	"	"	P-10
Aroclor 1260	47.8		23.4	"	"	"	"	P-10
Surrogate: Decachlorobiphenyl (Surr)		Re	ecovery: 76 %	Limits: 72-126 %	"	n	"	
140609-20 ESW1' Lip (A4F0188-06)			Matrix: Soi	l Ba	atch: 40602	74		C-0
Aroclor 1016	ND		19.3	ug/kg dry	1	06/11/14 23:34	EPA 8082A	
Aroclor 1221	ND		19.3	"	"	"	"	
Aroclor 1232	ND		19.3	"	"	"	"	
Aroclor 1242	ND		19.3	"	"	"	"	
Aroclor 1248	ND		19.3	"	"	"	"	
Aroclor 1254	1020		19.3	"	"	"	"	P-10
Aroclor 1260	608		19.3	"	"	"	"	P-10
Surrogate: Decachlorobiphenyl (Surr)		Re	ecovery: 85 %	Limits: 72-126 %	"	"	"	
140609-20 ESW4' Lip (A4F0188-07F	RE1)		Matrix: So	l Ba	atch: 40602	74		C-0
Aroclor 1016	ND		458	ug/kg dry	20	06/12/14 10:40	EPA 8082A	
Aroclor 1221	ND		458	"	"	"	"	
Aroclor 1232	ND		458	"	"	"	"	
Aroclor 1242	ND		458	"	"	"	"	
Aroclor 1248	ND		458	"	"	"	"	
Aroclor 1254	9940		458	"	"	"	"	P-10
Aroclor 1260	1610		458	"	"	"	"	P-10
Surrogate: Decachlorobiphenyl (Surr)		Re	ecovery: 92 %	Limits: 72-126 %	"	n .	"	S-05

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Semivolatile Organ	ic Compounds by	EPA 8270	טנ		
	D 1	Report	•) (d . !	
Analyte	Result	MDL Limi	Cints	Dilution	Date Analyzed	Method	Notes
140515-25 Floor (A4E0393-03RE1)		Matrix:		tch: 40504			F
Bis(2-ethylhexyl)phthalate	ND	80.3	ug/kg dry	4	05/16/14 12:09	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 93 %	6 Limits: 37-122 %	"	"	"	
2-Fluorobiphenyl (Surr)		103 %	6 Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)		99 %	6 Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)		95 %	6 Limits: 54-127 %	"	II .	"	
2-Fluorophenol (Surr)		94 %	6 Limits: 35-115 %	"	II .	"	
2,4,6-Tribromophenol (Surr)		114 %	6 Limits: 39-132 %	"	"	"	
140515-125 ESW1 (A4E0393-04RE1)		Matrix:	Soil Ba	atch: 40504	60		
Bis(2-ethylhexyl)phthalate	ND	38.4	ug/kg dry	1	05/16/14 13:59	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 88 %	6 Limits: 37-122 %	"	"	"	
2-Fluorobiphenyl (Surr)		87 %	6 Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)		94 %	6 Limits: 33-122 %	"	n .	"	
p-Terphenyl-d14 (Surr)		80 %	6 Limits: 54-127 %	"	n .	"	
2-Fluorophenol (Surr)		93 %	6 Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)		114 %	6 Limits: 39-132 %	"	"	"	
140515-125 ESW4 (A4E0393-05)		Matrix:	Soil Ba	atch: 40504	60		
Bis(2-ethylhexyl)phthalate	ND	43.7	ug/kg dry	1	05/16/14 14:36	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 88 %	6 Limits: 37-122 %	"	"	"	
2-Fluorobiphenyl (Surr)		85 %	6 Limits: 44-115 %	"	n .	"	
Phenol-d6 (Surr)		93 %	6 Limits: 33-122 %	"	n .	"	
p-Terphenyl-d14 (Surr)		79 %	6 Limits: 54-127 %	"	n .	"	
2-Fluorophenol (Surr)		92 %	6 Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)		113 %	6 Limits: 39-132 %	"	"	"	
140515-125 Floor (A4E0393-06)		Matrix:	Soil Ba	atch: 40504	60		
Bis(2-ethylhexyl)phthalate	ND	39.6	ug/kg dry	1	05/16/14 13:38	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 100 %	6 Limits: 37-122 %	"	"	"	
2-Fluorobiphenyl (Surr)		89 %	6 Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)		111 %	6 Limits: 33-122 %	"	m .	"	
p-Terphenyl-d14 (Surr)		93 %	6 Limits: 54-127 %	"	m .	"	
2-Fluorophenol (Surr)		109 %	6 Limits: 35-115 %	"	n .	"	
2,4,6-Tribromophenol (Surr)		113 %	6 Limits: 39-132 %	"	"	"	Q-41
140515-225 ESW4 (A4E0393-08)		Matrix:	Soil Ba	atch: 40504	60		
Bis(2-ethylhexyl)phthalate	ND	46.4	ug/kg dry	1	05/16/14 14:17	EPA 8270D	
* * * *							

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Semivolatil			y E. A 0270			
A l	Result	MDL	Reporting Limit		Dilution	Data Analona d	Method	Notes
Analyte	Resuit	WIDL		Units	Batch: 40504	Date Analyzed	Method	Notes
140515-225 ESW4 (A4E0393-08)		n	Matrix: So			"	EDA 0270D	
Surrogate: 2-Fluorobiphenyl (Surr)		Rec	overy: 91 %	Limits: 44-115 %	1		EPA 8270D	
Phenol-d6 (Surr)			108 %	Limits: 33-122 %				
p-Terphenyl-d14 (Surr)			84 %	Limits: 54-127 %	"			
2-Fluorophenol (Surr)			108 %	Limits: 35-115 %	"			0.41
2,4,6-Tribromophenol (Surr)			111 %	Limits: 39-132 %				Q-41
140515-225 Floor (A4E0393-09)			Matrix: So	il B	atch: 40504	60		
Bis(2-ethylhexyl)phthalate	ND		43.4	ug/kg dry	1	05/16/14 14:56	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Rec	overy: 98 %	Limits: 37-122 %	"	"	"	
2-Fluorobiphenyl (Surr)			89 %	Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)			106 %	Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)			93 %	Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)			104 %	Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)			110 %	Limits: 39-132 %	"	"	"	Q-41
140515-325 Floor (A4E0393-12)			Matrix: So	il B	atch: 40504	60		
Bis(2-ethylhexyl)phthalate	ND		39.2	ug/kg dry	1	05/16/14 15:13	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Rec	overy: 88 %	Limits: 37-122 %	"	"	"	
2-Fluorobiphenyl (Surr)			83 %	Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)			94 %	Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)			77 %	Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)			91 %	Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)			114 %	Limits: 39-132 %	"	"	"	
140515-SSW4 (A4E0393-14)			Matrix: So	il B	atch: 40504	60		R-0
Bis(2-ethylhexyl)phthalate	ND		79.5	ug/kg dry	4	05/16/14 12:45	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Rec	overy: 90 %	Limits: 37-122 %	"	II .	ii .	
2-Fluorobiphenyl (Surr)			90 %	Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)			95 %	Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)			83 %	Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)			87 %	Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)			112 %	Limits: 39-132 %	"	"	"	
140527-360' SSW1 (A4E0674-03RE1)			Matrix: So	il B	atch: 40507	56		
Bis(2-ethylhexyl)phthalate	ND		40.8	ug/kg dry	1	05/29/14 09:51	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Rec	overy: 78 %	Limits: 37-122 %	"	"	"	
2-Fluorobiphenyl (Surr)			83 %	Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)			88 %	Limits: 33-122 %	,,			

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		T.						
Analyte	Result	MDL R	eporting Limit	Units	Dilution	Date Analyzed	Method	Notes
140527-360' SSW1 (A4E0674-03RE1	· Cints			atch: 4050756				
Surrogate: p-Terphenyl-d14 (Surr)		Recovery	v: 81 %	Limits: 54-127 %	1	n .	EPA 8270D	
2-Fluorophenol (Surr)			86 %	Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)			87 %	Limits: 39-132 %	"	n .	"	
140527-32' Pole LIP (A4E0674-04RE1)		Matrix: Soil		l Batch: 40507		56		
Bis(2-ethylhexyl)phthalate	293		191	ug/kg dry	4	05/29/14 11:35	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery): 83 %	Limits: 37-122 %	"	11	"	
2-Fluorobiphenyl (Surr)			78 %	Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)			91%	Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)			89 %	Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)			77 %	Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)				Limits: 39-132 %	"	"	"	
140528 - 225ESW16in (A4E0704-01)		Matrix: Soil B		itch: 4050756				
Bis(2-ethylhexyl)phthalate	1150	1	030	ug/kg dry	20	05/29/14 09:11	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery	y: 66 %	Limits: 37-122 %	"	"	"	S-0
2-Fluorobiphenyl (Surr)				Limits: 44-115 %	"	"	"	S-0
Phenol-d6 (Surr)			70 %	Limits: 33-122 %	"	"	"	S-0
p-Terphenyl-d14 (Surr)			89 %	Limits: 54-127 %	"	"	"	S-0
2-Fluorophenol (Surr)			56 %	Limits: 35-115 %	"	"	"	S-0
2,4,6-Tribromophenol (Surr)				Limits: 39-132 %	"	"	"	S-0
140528 - 225ESW27in (A4E0704-02)		Matrix: Soil Ba		tch: 4050756				
Bis(2-ethylhexyl)phthalate	ND	4	14.3	ug/kg dry	1	05/29/14 11:43	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery): 89 %	Limits: 37-122 %	"	11	"	
2-Fluorobiphenyl (Surr)			91%	Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)			98 %	Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)			91%	Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)			96 %	Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)			106 %	Limits: 39-132 %	"	n .	"	
140528 - 325 ESW4' (A4E0704-05RE1)		Matrix: Soil Ba		tch: 4050756				
Bis(2-ethylhexyl)phthalate	ND	5	53.7	ug/kg dry	1	05/29/14 10:59	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery:	107 %	Limits: 37-122 %	"	"	"	
2-Fluorobiphenyl (Surr)			94 %	Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)			115 %	Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)			99 %	Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)			98%	Limits: 35-115 %	"		,,	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Semivolatile Org	апіс Со	mpounas by	EPA 82/0			
			orting					
Analyte	Result		imit	Units	Dilution	Date Analyzed	Method	Notes
140528 - 325 ESW4' (A4E0704-05RE	1)	Matrix	c: Soil		atch: 40507	56		
Surrogate: 2,4,6-Tribromophenol (Surr)		Recovery: 10	19 % Li	imits: 39-132 %	1	"	EPA 8270D	
140530-318'Pole Lip (A4E0758-01)		Matrix	c: Soil	Ва	atch: 40600	03		
Bis(2-ethylhexyl)phthalate	ND	61.	8	ug/kg dry	1	06/03/14 14:02	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 9	98 % Li	imits: 37-122 %	"	"	"	
2-Fluorobiphenyl (Surr)		8	3 % Li	imits: 44-115 %	"	"	"	
Phenol-d6 (Surr)		9	95 % Li	imits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)		9	02 % Li	imits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)		8	86 % Li	imits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)		8	87 % Li	imits: 39-132 %	"	"	"	
140530-332'Pole 3 Lip (A4E0758-02I	RE1)	Matrix	c: Soil	Ва	atch: 40600	03		R-0
Bis(2-ethylhexyl)phthalate	ND	222	2	ug/kg dry	4	06/03/14 12:50	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 10	05 % Li	imits: 37-122 %	"	11	n .	
2-Fluorobiphenyl (Surr)		9	93 % Li	imits: 44-115 %	"	"	"	
Phenol-d6 (Surr)		10	07 % Li	imits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)		10	01 % Li	imits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)		9	04 % Li	imits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)		9	04 % Li	imits: 39-132 %	"	"	"	
140529-251'Light Pole Lip (A4E0758	3-03)	Matrix	c: Soil	Ва	atch: 40600	03		
Bis(2-ethylhexyl)phthalate	6430	561	0	ug/kg dry	40	06/02/14 13:38	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 7	'6% Li	imits: 37-122 %	"	"	"	S-05
2-Fluorobiphenyl (Surr)		7	77% L	imits: 44-115 %	"	"	"	S-05
Phenol-d6 (Surr)		7	'6% Li	imits: 33-122 %	"	"	"	S-05
p-Terphenyl-d14 (Surr)		8	35 % Li	imits: 54-127 %	"	"	"	S-05
2-Fluorophenol (Surr)		6	66 % Li	imits: 35-115 %	"	"	"	S-05
2,4,6-Tribromophenol (Surr)		17	76 % Li	imits: 39-132 %	"	"	"	S-05
140529-176'Pole 2 Lip (A4E0758-04I	RE1)	Matrix	c: Soil	Ва	atch: 40600	03		R-0
Bis(2-ethylhexyl)phthalate	ND	563	3	ug/kg dry	10	06/03/14 12:14	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 9	07 % Li	imits: 37-122 %	"	"	"	
2-Fluorobiphenyl (Surr)		9	01% Li	imits: 44-115 %	"	"	"	
Phenol-d6 (Surr)		10	05 % Li	imits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)		10	01 % Li	imits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)		8	88 % Li	imits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)		9	93 % Li	imits: 39-132 %	"	"	"	
140530-325ESW1 (A4E0765-01)		Matrix	c: Soil	Ba	atch: 40600	03		

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Page 13 of 63

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Semivolatile Organ	ic compounds by	/ EPA 02/(טנ		
Analyta	Result	Report MDL Limi	•	Dilution	Data Analyzad	Method	Notes
Analyte [40530-325ESW1 (A4E0765-01)	Kesuit	Matrix:	Cints	Dilution atch: 40600	Date Analyzed	Memou	notes
							0.4
Bis(2-ethylhexyl)phthalate	578	539	ug/kg dry	10	06/02/14 14:51	EPA 8270D	Q-4
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 74 %	6 Limits: 37-122 %	"	"	"	
2-Fluorobiphenyl (Surr)		70 %	6 Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)		76 %	6 Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)		75 %	6 Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)		64 %	6 Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)		66 %	6 Limits: 39-132 %	"	"	"	
140609-25 ESW1' (A4F0188-01RE1)		Matrix:	Soil Ba	atch: 40602	54		
Bis(2-ethylhexyl)phthalate	751	432	ug/kg dry	10	06/11/14 11:07	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 83 %	6 Limits: 37-122 %	"	"	"	Q-41
2-Fluorobiphenyl (Surr)		79 %	6 Limits: 44-115 %	"	"	"	~
Phenol-d6 (Surr)		84 %	6 Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)		93 %	6 Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)		70 %	6 Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)		89 %	6 Limits: 39-132 %	"	"	"	
140609-25 ESW4' (A4F0188-02RE1)		Matrix:	Soil Ba	atch: 40602	54		
Bis(2-ethylhexyl)phthalate	271	187	ug/kg dry	4	06/11/14 09:55	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 87 %	6 Limits: 37-122 %	"	ıı .	"	Q-41
2-Fluorobiphenyl (Surr)		82 %	6 Limits: 44-115 %	"	"	"	2 '
Phenol-d6 (Surr)		91 %	6 Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)		92 %	6 Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)		77 %	6 Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)		85 %	6 Limits: 39-132 %	"	"	"	
140609-20 Floor Lip (A4F0188-03RE2	2)	Matrix:	Soil Ba	atch: 40602	54		
Bis(2-ethylhexyl)phthalate	ND	47.2	ug/kg dry	1	06/11/14 13:32	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 99 %	6 Limits: 37-122 %	"	"	"	Q-41
2-Fluorobiphenyl (Surr)		82 %		"	"	"	٤,,
Phenol-d6 (Surr)		97 %	6 Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)		92 %	6 Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)		84 %	6 Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)		89 %	6 Limits: 39-132 %	"	"	"	
140609- NSW1' (A4F0188-04RE2)		Matrix:	Soil Ba	atch: 40602	54		
Bis(2-ethylhexyl)phthalate	48.9	48.6	ug/kg dry	1	06/11/14 12:56	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 100 %		"	"	"	Q-41
surroguie. Mirobenzene-us (surr)		Recovery, 100 7	Dimus. 3/-144 70				Q-41

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Semivol	atile Organic	Compounds by	/ EPA 8270)D		
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140609- NSW1' (A4F0188-04RE2)			Matrix: So	il Ba	atch: 40602			
Surrogate: 2-Fluorobiphenyl (Surr)			Recovery: 84 %	Limits: 44-115 %	1	"	EPA 8270D	
Phenol-d6 (Surr)			98 %	Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)			99 %	Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)			86 %	Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)			92 %	Limits: 39-132 %	"	"	"	
140609- NSW4' (A4F0188-05RE1)			Matrix: So	il Ba	atch: 40602	54		
Bis(2-ethylhexyl)phthalate	255		216	ug/kg dry	4	06/11/14 10:31	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)			Recovery: 94 %	Limits: 37-122 %	"	"	"	Q-41
2-Fluorobiphenyl (Surr)			80 %	Limits: 44-115 %	"	"	"	_
Phenol-d6 (Surr)			94 %	Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)			92 %	Limits: 54-127 %	"	n .	"	
2-Fluorophenol (Surr)			80 %	Limits: 35-115 %	"	n .	"	
2,4,6-Tribromophenol (Surr)			94 %	Limits: 39-132 %	"	"	"	
140609-20 ESW1' Lip (A4F0188-06)			Matrix: So	il Ba	atch: 40602	54		
Bis(2-ethylhexyl)phthalate	39000		1800	ug/kg dry	40	06/10/14 18:09	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)			Recovery: 68 %	Limits: 37-122 %	"	"	"	S-05
2-Fluorobiphenyl (Surr)			71 %	Limits: 44-115 %	"	n .	"	S-05
Phenol-d6 (Surr)			66 %	Limits: 33-122 %	"	"	"	S-05
p-Terphenyl-d14 (Surr)			87 %	Limits: 54-127 %	"	"	"	S-05
2-Fluorophenol (Surr)			55 %	Limits: 35-115 %	"	"	"	S-05
2,4,6-Tribromophenol (Surr)			87 %	Limits: 39-132 %	"	"	"	S-05
140609-20 ESW4' Lip (A4F0188-07RI	≣1)		Matrix: So	il Ba	atch: 40602	54		R-0
Bis(2-ethylhexyl)phthalate	ND		1190	ug/kg dry	10	06/11/14 12:19	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)			Recovery: 95 %	Limits: 37-122 %	"	"	"	Q-41
2-Fluorobiphenyl (Surr)			84 %	Limits: 44-115 %	"	"	"	
Phenol-d6 (Surr)			95 %	Limits: 33-122 %	"	"	"	
p-Terphenyl-d14 (Surr)			93 %	Limits: 54-127 %	"	"	"	
2-Fluorophenol (Surr)			84 %	Limits: 35-115 %	"	"	"	
2,4,6-Tribromophenol (Surr)			120 %	Limits: 39-132 %	"	"	"	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		Tot	tal Metals by E	=PA 6020 (IC	PIVIS)			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140515-25 Floor (A4E0393-03)			Matrix: Soil					
Batch: 4050477								
Cadmium	0.283		0.246	mg/kg dry	10	05/16/14 12:02	EPA 6020A	
Lead	118		0.246	"	"	"	"	
Mercury	ND		0.197	"	"	"	"	
140515-125 ESW1 (A4E0393-04)			Matrix: Soil					
Batch: 4050477								
Cadmium	0.272		0.259	mg/kg dry	10	05/16/14 12:05	EPA 6020A	
Lead	19.5		0.259	"	"	"	"	
Mercury	ND		0.207	"	"	"	"	
140515-125 ESW4 (A4E0393-05)			Matrix: Soil					
Batch: 4050477								
Cadmium	0.880		0.263	mg/kg dry	10	05/16/14 12:14	EPA 6020A	
Lead	22.7		0.263	"	"	"	"	
Mercury	ND		0.210	"	"	"	"	
140515-125 Floor (A4E0393-06)			Matrix: Soil					
Batch: 4050477								
Cadmium	3.35		0.274	mg/kg dry	10	05/16/14 12:17	EPA 6020A	
Lead	5.27		0.274	"	"	"	"	
Mercury	ND		0.219	"	"	"	"	
140515-225 ESW4 (A4E0393-08)			Matrix: Soil					
Batch: 4050477								
Cadmium	ND		0.302	mg/kg dry	10	05/16/14 12:32	EPA 6020A	
Lead	8.88		0.302	"	"	"	"	
Mercury	ND		0.242	"	"	"	"	
140515-225 Floor (A4E0393-09)			Matrix: Soil					
Batch: 4050477								
Cadmium	ND		0.275	mg/kg dry	10	05/16/14 12:35	EPA 6020A	
Lead	6.33		0.275	"	"	"	"	
Mercury	ND		0.220	"	"	"	"	
140515-325 Floor (A4E0393-12)			Matrix: Soil					
Batch: 4050477								
Cadmium	ND		0.268	mg/kg dry	10	05/16/14 12:44	EPA 6020A	
Lead	13.1		0.268	"	"	"	"	
Mercury	ND		0.215	"	"	"	"	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		То	tal Metals by E	PA 6020 (IC	PMS)			
	_		Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140515-SSW4 (A4E0393-14)			Matrix: Soil					
Batch: 4050477								
Cadmium	ND		0.273	mg/kg dry	10	05/16/14 12:49	EPA 6020A	
Lead	76.7		0.273	"	"	"	"	
Mercury	ND		0.218	"	"	"	"	
140527-360' SSW1 (A4E0674-03)			Matrix: Soil					
Batch: 4050758								
Cadmium	0.351		0.260	mg/kg dry	10	05/29/14 16:34	EPA 6020A	
Lead	17.4		0.260	"	"	"	"	
Mercury	ND		0.104	"	"	"	"	
140527-32' Pole LIP (A4E0674-04)			Matrix: Soil					
Batch: 4050758								
Cadmium	3.81		0.218	mg/kg dry	10	05/29/14 16:43	EPA 6020A	
Lead	192		0.218	"	"	"	"	EST, Q-4
Mercury	0.160		0.0870	"	"	"	"	
140528 - 225ESW16in (A4E0704-01))		Matrix: Soil					
Batch: 4050778								
Cadmium	5.74		0.221	mg/kg dry	10	05/29/14 13:45	EPA 6020A	
Lead	633		0.221	"	"	"	"	
Mercury	0.446		0.0883	"	"	"	"	
140528 - 225ESW27in (A4E0704-02))		Matrix: Soil					
Batch: 4050778								
Cadmium	6.40		0.247	mg/kg dry	10	05/29/14 14:56	EPA 6020A	
Lead	724		0.247	"	"	"	"	Q-4
Mercury	0.501		0.0989	"	"	"	"	
140528 - 325 ESW4' (A4E0704-05)			Matrix: Soil					
Batch: 4050778								
Cadmium	0.306		0.266	mg/kg dry	10	05/29/14 15:14	EPA 6020A	
Lead	22.5		0.266	"	"	"	"	Q-4
Mercury	ND		0.106	"	"	"	"	
140530-318'Pole Lip (A4E0758-01)			Matrix: Soil					
Batch: 4060126								
Cadmium	0.514		0.251	mg/kg dry	10	06/05/14 15:16	EPA 6020A	
Lead	177		0.251	"	"	"	"	
Mercury	0.134		0.100	"	"	"	"	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)												
			Reporting									
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes				
140530-332'Pole 3 Lip (A4E0758-02)		Matrix: Soil									
Batch: 4060126												
Cadmium	0.333		0.246	mg/kg dry	10	06/05/14 15:19	EPA 6020A					
Lead	67.6		0.246	"	"	"	"					
Mercury	ND		0.0986	"	"	"	"					
40529-251'Light Pole Lip (A4E075	8-03)		Matrix: Soil									
Batch: 4060126												
Cadmium	23.0		0.229	mg/kg dry	10	06/05/14 15:28	EPA 6020A					
Lead	1220		1.14	"	50	06/06/14 12:38	"					
Mercury	0.661		0.0915	**	10	06/05/14 15:28	"					
40529-176'Pole 2 Lip (A4E0758-04)		Matrix: Soil									
Batch: 4060126												
Cadmium	1.15		0.256	mg/kg dry	10	06/05/14 15:31	EPA 6020A					
Lead	100		0.256	"	"	"	"					
Mercury	ND		0.102	"	"	"	"					
140530-325ESW1 (A4E0765-01)			Matrix: Soil									
Batch: 4060126												
Cadmium	1.31		0.248	mg/kg dry	10	06/05/14 15:34	EPA 6020A					
Lead	76.6		0.248	"	"	"	"					
Mercury	ND		0.0992	"	"	"	"					
40609-25 ESW1' (A4F0188-01)			Matrix: Soil									
Batch: 4060330												
Cadmium	6.39		0.229	mg/kg dry	10	06/12/14 14:27	EPA 6020A					
Lead	385		1.14	"	"	"	"					
Mercury	0.351		0.183	"	"	"	"					
40609-25 ESW4' (A4F0188-02)			Matrix: Soil									
Batch: 4060330												
Cadmium	1.69		0.250	mg/kg dry	10	06/12/14 14:35	EPA 6020A					
Lead	77.7		1.25	"	"	"	"					
Mercury	ND		0.200	"	"	"	"					
40609-20 Floor Lip (A4F0188-03)			Matrix: Soil									
Batch: 4060330												
Arsenic	8.29		1.38	mg/kg dry	10	06/12/14 14:38	EPA 6020A					
Barium	89.9		1.38	"	"	"	"					
Cadmium	5.11		0.277	"	"	"	"					
Chromium	234		1.38	"	"	"	"					

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		То	tal Metals by E	EPA 6020 (IC	PMS)			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140609-20 Floor Lip (A4F0188-03)			Matrix: Soil					
Lead	60.6		1.38	mg/kg dry	10	"	EPA 6020A	
Mercury	ND		0.221	"	"	"	"	
Selenium	ND		1.38	"	"	"	"	Q-29
Silver	0.374		0.277	"	"	"	"	
140609- NSW1' (A4F0188-04)			Matrix: Soil					
Batch: 4060330								
Cadmium	0.468		0.267	mg/kg dry	10	06/12/14 14:41	EPA 6020A	
Lead	444		1.34	"	"	"	"	
Mercury	ND		0.214	"	"	"	"	
140609- NSW4' (A4F0188-05)			Matrix: Soil					
Batch: 4060330								
Cadmium	5.11		0.310	mg/kg dry	10	06/12/14 14:44	EPA 6020A	
Lead	770		1.55	"	"	"	"	
Mercury	ND		0.248	"	"	"	"	
140609-20 ESW1' Lip (A4F0188-06))		Matrix: Soil					
Batch: 4060330								
Arsenic	7.26		1.25	mg/kg dry	10	06/12/14 14:47	EPA 6020A	
Barium	292		1.25	"	"	"	"	
Cadmium	8.42		0.250	"	"	"	"	
Chromium	72.8		1.25	"	"	"	"	
Lead	379		1.25	"	"	"	"	
Mercury	0.369		0.200	"	"	"	"	
Selenium	ND		1.25	"	"	"	"	Q-29
Silver	0.463		0.250	"	"	"	"	
140609-20 ESW4' Lip (A4F0188-07))		Matrix: Soil					
Batch: 4060330								
Arsenic	18.9		1.30	mg/kg dry	10	06/12/14 14:50	EPA 6020A	
Cadmium	36.9		0.259	"	"	"	"	
Chromium	107		1.30	"	"	"	"	
Selenium	1.73		1.30	"	"	"	"	Q-29
Silver	1.38		0.259	"	"	"	"	
140609-20 ESW4' Lip (A4F0188-07	RE1)		Matrix: Soil					
Batch: 4060330								
Barium	839		13.0	mg/kg dry	100	06/12/14 15:31	EPA 6020A	
Lead	1630		13.0	"	"	"	"	

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Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		To	tal Metals by I	EPA 6020 (IC	PMS)			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140609-20 ESW4' Lip (A4	4F0188-07RE1)		Matrix: Soil					
Mercury	6.10		2.08	mg/kg dry	100	"	EPA 6020A	

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ANALYTICAL SAMPLE RESULTS

			TCLP Extractio	n by EPA	A 1311			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140527-32' Pole LIP (A4E0674-04)			Matrix: Soil		Batch: 40600	60		
TCLP Extraction	0.00			N/A	1	06/03/14 17:30	EPA 1311	
140528 - 225ESW16in (A4E0704-01)			Matrix: Soil		Batch: 40600	60		
TCLP Extraction	0.00			N/A	1	06/03/14 17:30	EPA 1311	
140528 - 225ESW27in (A4E0704-02)			Matrix: Soil		Batch: 40600	60		
TCLP Extraction	0.00			N/A	1	06/03/14 17:30	EPA 1311	
140529-251'Light Pole Lip (A4E0758	-03)		Matrix: Soil		Batch: 40604	36		
TCLP Extraction	0.00			N/A	1	06/16/14 17:49	EPA 1311	
140609-25 ESW1' (A4F0188-01)			Matrix: Soil		Batch: 40604	36		
TCLP Extraction	0.00			N/A	1	06/16/14 17:49	EPA 1311	
140609-20 Floor Lip (A4F0188-03)			Matrix: Soil		Batch: 40603	55		
TCLP Extraction	0.00			N/A	1	06/12/14 17:19	EPA 1311	
140609- NSW1' (A4F0188-04)			Matrix: Soil		Batch: 40604	36		
TCLP Extraction	0.00			N/A	1	06/16/14 17:49	EPA 1311	
140609- NSW4' (A4F0188-05)			Matrix: Soil		Batch: 40604	36		
TCLP Extraction	0.00			N/A	1	06/16/14 17:49	EPA 1311	
140609-20 ESW1' Lip (A4F0188-06)			Matrix: Soil		Batch: 40604	36		
TCLP Extraction	0.00			N/A	1	06/16/14 17:49	EPA 1311	
140609-20 ESW4' Lip (A4F0188-07)			Matrix: Soil		Batch: 40604	36		
TCLP Extraction	0.00			N/A	1	06/16/14 17:49	EPA 1311	

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Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

		TC	LP Metals by E	PA 6020 (IC	CPMS)			
A	D1	MDI	Reporting		D.1	Det A 1	M-41 1	NI /
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140527-32' Pole LIP (A4E0674-04)			Matrix: Soil					
Batch: 4060091 Lead	0.0865		0.0500	mg/I	5	06/05/14 13:41	1211/6020 *	
				mg/L	3	00/03/14 15:41	1311/6020A	
140528 - 225ESW16in (A4E0704-01))		Matrix: Soil					
Batch: 4060091 Lead	0.416		0.0500	mg/I	5	06/05/14 13:44	1211/60204	
				mg/L	3	00/03/14 13:44	1311/6020A	
140528 - 225ESW27in (A4E0704-02))		Matrix: Soil					
Batch: 4060091 Lead	ND		0.0500	mc/I	5	06/05/14 13:54	1311/6020A	
				mg/L	3	00/03/14 13:34	1311/0U2UA	
140529-251'Light Pole Lip (A4E0758	ช-03) ————		Matrix: Soil					
Batch: 4060467	274		0.0500	mc/I	£	06/17/14 16:07	1011/0000	0.49
Lead	3.74		0.0500	mg/L	5	06/17/14 16:27	1311/6020A	Q-41
140609-25 ESW1' (A4F0188-01)			Matrix: Soil					
Batch: 4060467	A 401		0.0500	. 1*	-	06/17/14/16	10111555	
Lead	0.186		0.0500	mg/L	5	06/17/14 16:36	1311/6020A	
140609-20 Floor Lip (A4F0188-03)			Matrix: Soil					
Batch: 4060379	-		_	_		06/15/21/2		
Arsenic	ND		0.200	mg/L	10	06/13/14 13:35	1311/6020A	
Barium	1.03		1.00	"	"	"	"	
Cadmium	ND		0.100	"	"	"	"	
Chromium	ND ND		0.200	"	"			
Lead Mercury	ND ND		0.100 0.00800	"	"	"	"	
Mercury Selenium	ND ND		0.00800	"	"	"		
Silver	ND ND		0.200	"	"	"		
	.11							
140609- NSW1' (A4F0188-04) Ratch: 4060467			Matrix: Soil					
Batch: 4060467 Lead	0.293		0.0500	mg/L	5	06/17/14 16:39	1311/6020 4	
	0.473			111g/L	J	00/11/17 10.39	1311/6020A	
140609- NSW4' (A4F0188-05)			Matrix: Soil					
Batch: 4060467 Lead	0.116		0.0500	mg/L	5	06/17/14 16:42	1311/6020A	
			Matrix: Soil	111 5 / L	J	SS/1//17 10.42	1311/002UA	
140609-20 ESW1' Lip (A4F0188-06) Batch: 4060467			width: 50ll					
Lead	1.03		0.0500	mg/L	5	06/17/14 16:45	1311/6020A	
				111g/ L	J	00/1//17 10.4J	1311/0020A	
140609-20 ESW4' Lip (A4F0188-07)			Matrix: Soil					

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Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

	TCLP Metals by EPA 6020 (ICPMS)									
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes		
140609-20 ESW4' Lip (A4F0188-07)			Matrix: Soil							
Batch: 4060467										
Cadmium	0.346		0.0500	mg/L	5	06/17/14 16:48	1311/6020A			
Lead	9.62		0.0500	"	"	"	"			
Mercury	ND		0.00400	"	"	"	"			

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Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

			Percent	Dry Weight				
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
140515-25 Floor (A4E0393-03)			Matrix: Soil		atch: 40504			
% Solids	81.3		1.00	% by Weight	1	05/16/14 11:23	EPA 8000C	
140515-125 ESW1 (A4E0393-04)			Matrix: Soil	В	atch: 40504	48		
% Solids	80.9		1.00	% by Weight	1	05/16/14 11:23	EPA 8000C	
140515-125 ESW4 (A4E0393-05)			Matrix: Soil	В	atch: 40504	48		
% Solids	75.8		1.00	% by Weight	1	05/16/14 11:23	EPA 8000C	
140515-125 Floor (A4E0393-06)			Matrix: Soil	В	atch: 40504	48		
% Solids	78.9		1.00	% by Weight	1	05/16/14 11:23	EPA 8000C	
140515-225 ESW4 (A4E0393-08)			Matrix: Soil	В	Batch: 4050448			
% Solids	69.1		1.00	% by Weight	1	05/16/14 11:23	EPA 8000C	
140515-225 Floor (A4E0393-09)			Matrix: Soil	В	atch: 40504	48		
% Solids	76.2		1.00	% by Weight	1	05/16/14 11:23	EPA 8000C	
140515-325 Floor (A4E0393-12)			Matrix: Soil	В	atch: 40504	48		
% Solids	79.0		1.00	% by Weight	1	05/16/14 11:23	EPA 8000C	
140515-SSW4 (A4E0393-14)			Matrix: Soil	В	atch: 40504	48		
% Solids	79.5		1.00	% by Weight	1	05/16/14 11:23	EPA 8000C	
140527-360' SSW1 (A4E0674-03)			Matrix: Soil	В	atch: 40507	63		
% Solids	83.0		1.00	% by Weight	1	05/29/14 09:49	EPA 8000C	
140527-32' Pole LIP (A4E0674-04)			Matrix: Soil	В	atch: 40507	63		
% Solids	90.5		1.00	% by Weight	1	05/29/14 09:49	EPA 8000C	
140528 - 225ESW16in (A4E0704-01)			Matrix: Soil	В	atch: 40507	63		
% Solids	89.3		1.00	% by Weight	1	05/29/14 09:49	EPA 8000C	
140528 - 225ESW27in (A4E0704-02)			Matrix: Soil	В	atch: 40507	63		
% Solids	81.2		1.00	% by Weight	1	05/29/14 09:49	EPA 8000C	
140528 - 325 ESW4' (A4E0704-05)			Matrix: Soil	В	atch: 40507	63		
% Solids	77.9		1.00	% by Weight	1	05/29/14 09:49	EPA 8000C	
140530-318'Pole Lip (A4E0758-01)			Matrix: Soil	В	atch: 40600	25		
% Solids	80.6		1.00	% by Weight	1	06/03/14 09:49	EPA 8000C	
140530-332'Pole 3 Lip (A4E0758-02))		Matrix: Soil	В	atch: 40600	25		
% Solids	85.8		1.00	% by Weight	1	06/03/14 09:49	EPA 8000C	
140529-251'Light Pole Lip (A4E0758	3-03)		Matrix: Soil	B	atch: 40600	25		
% Solids	84.2		1.00		1	06/03/14 09:49	EPA 8000C	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

ANALYTICAL SAMPLE RESULTS

			Perce	ent D	ry Weight							
Analyte	Result	MDL	Reporti Limit	_	Units	Dilution	Date Analyzed	Method	Notes			
140529-176'Pole 2 Lip (A4E0758-04)			Matrix: S	Soil	Ва	atch: 406002	25					
% Solids	83.4		1.00		% by Weight	1	06/03/14 09:49	EPA 8000C				
140530-325ESW1 (A4E0765-01)			Matrix: S	Soil	Ва	atch: 406002	25					
% Solids	87.3		1.00		% by Weight	1	06/03/14 09:49	EPA 8000C				
140609-25 ESW1' (A4F0188-01)			Matrix: S	Soil	Ва	atch: 40602	58					
% Solids	87.7		1.00		% by Weight	1	06/11/14 10:31	EPA 8000C				
140609-25 ESW4' (A4F0188-02)			Matrix: S	Soil	Ва	atch: 40602	58					
% Solids	80.5		1.00		% by Weight	1	06/11/14 10:31	EPA 8000C				
140609-20 Floor Lip (A4F0188-03)			Matrix: S	Soil	Ва	atch: 40602	58					
% Solids	78.7		1.00		% by Weight	1	06/11/14 10:31	EPA 8000C				
140609- NSW1' (A4F0188-04)			Matrix: S	Soil	Ва	atch: 40602	58					
% Solids	77.5		1.00		% by Weight	1	06/11/14 10:31	EPA 8000C				
140609- NSW4' (A4F0188-05)			Matrix: S	Soil	Ва	atch: 40602	58					
% Solids	69.9		1.00		% by Weight	1	06/11/14 10:31	EPA 8000C				
140609-20 ESW1' Lip (A4F0188-06)			Matrix: S	Soil	Ва	atch: 40602	58					
% Solids	86.6		1.00		% by Weight	1	06/11/14 10:31	EPA 8000C				
140609-20 ESW4' Lip (A4F0188-07)			Matrix: S	Soil	I Batch: 4060258							
% Solids	82.7		1.00		% by Weight	1	06/11/14 10:31	EPA 8000C				

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number:SIC-025Reported:Lake Oswego, OR 97035Project Manager:Aaron Leritz08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

Batch 4050465 - EPA 3546 Prepared: 05/16/14 06:48 Analyzed: 05/16/14 11:27												
Analyte	Result	MDL		Units	Dil.			%REC		RPD	RPD Limit	Notes
Batch 4050465 - EPA 3546	i						Soi	l				
Blank (4050465-BLK1)				Prepa	ared: 05/	16/14 06:48	Analyzed:	05/16/14 1	1:27			C-07
EPA 8082A												
Aroclor 1016	ND		8.33	ug/kg wet	1							
Aroclor 1221	ND		8.33	"	"							
Aroclor 1232	ND		8.33	"	"							
Aroclor 1242	ND		8.33	"	"							
Aroclor 1248	ND		8.33	"	"							
Aroclor 1254	ND		8.33	"	"							
Aroclor 1260	ND		8.33	"	"							
Surr: Decachlorobiphenyl (Surr)		Rec	overy: 114 %	Limits: 72-1	26 %	Dila	ution: 1x					
LCS (4050465-BS1)				Prepa	ared: 05/	16/14 06:48	Analyzed:	05/16/14 1	1:46			C-07
EPA 8082A												
Aroclor 1016	207		10.0	ug/kg wet		250		83	47-134%			
Aroclor 1260	239		10.0	"	"	"		96	53-140%			
Surr: Decachlorobiphenyl (Surr)		Rec	overy: 115 %	Limits: 72-1	26 %	Dili	ution: 1x					
Duplicate (4050465-DUP1)				Prepa	ared: 05/	16/14 06:48	Analyzed:	05/16/14 1	2:59			C-07
	(A4E0393-02))										
	ND		21.5	ug/kg dry	1		ND				30%	
											30%	
				"	"						30%	
Aroclor 1242	ND ND		21.5	"	"		ND ND				30%	
Aroclor 1248	ND		21.5	"	"		ND				30%	
Aroclor 1254	ND ND		21.5	"	"		ND ND				30%	
Aroclor 1260	ND ND		21.5	"	"		ND ND				30%	
Surr: Decachlorobiphenyl (Surr)	1,12		overy: 114 %	Limits: 72-1	26 %	Dila	ution: 1x				2070	
Matrix Spike (4050465-MS1)				Prenz	ared: 05/	16/14 06:48	Analyzed.	05/16/14 1	5:07			C-07
QC Source Sample: 140515-SSW4	(A4E0393-141	RE1)		11000		3.2.000						- *:
EPA 8082A	(111200)5-141)										
Aroclor 1016	473		23.6	ug/kg dry	1	589	ND	80	47-134%			
Aroclor 1260	560		23.6	"	"	"	ND	95	53-140%			

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			Polychlo	rinated B	iphenyls	by EPA 80)82A					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050465 - EPA 3546							Soi	<u> </u>				
Matrix Spike (4050465-MS1)				Pre	epared: 05/	16/14 06:48	Analyzed:	05/16/14 15	:07			C-07
QC Source Sample: 140515-SSW4	(A4E0393-14F	RE1)										
Surr: Decachlorobiphenyl (Surr)		Red	covery: 113 %	Limits: 72	2-126 %	Dill	ution: 1x					

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number: SIC-025Reported:Lake Oswego, OR 97035Project Manager: Aaron Leritz08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			Polychlo	rinated Bipl	henyls	by EPA 80)82A					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050757 - EPA 3546							Soil					
Blank (4050757-BLK1)				Prepa	ared: 05/	28/14 11:59	Analyzed:	05/28/14 1	4:38			C-07
EPA 8082A												
Aroclor 1016	ND		9.09	ug/kg wet	1							
Aroclor 1221	ND		9.09	"	"							
Aroclor 1232	ND		9.09	"	"							
Aroclor 1242	ND		9.09	"	"							
Aroclor 1248	ND		9.09	"	"							
Aroclor 1254	ND		9.09	"	"							
Aroclor 1260	ND		9.09	"	"							
Surr: Decachlorobiphenyl (Surr)		Rec	overy: 102 %	Limits: 72-1.	26 %	Dilt	ution: 1x					
LCS (4050757-BS1)				Prepa	ared: 05/	28/14 11:59	Analyzed:	05/28/14 1	4:56			C-07
EPA 8082A												
Aroclor 1016	217		10.0	ug/kg wet	1	250		87	47-134%			
Aroclor 1260	245		10.0	"	"	"		98	53-140%			
Surr: Decachlorobiphenyl (Surr)		Rec	overy: 117 %	Limits: 72-1.	26 %	Dilı	ution: 1x					
Duplicate (4050757-DUP1)				Prepa	ared: 05/	28/14 11:59	Analyzed:	05/28/14 1	7:23			C-07
QC Source Sample: 140527-25 ESW	1' (A4E0674	-01RE1)										
EPA 8082A	NID		45 1	/	2		ND				200/	
Aroclor 1016	ND ND		45.1 45.1	ug/kg dry	2		ND				30%	
Aroclor 1221				"	,,		ND				30%	
Aroclor 1232	ND		45.1	"	"		ND			***	30%	
Aroclor 1242	ND		45.1	"	"		33.3				30%	
Aroclor 1248	ND		45.1	"	"		ND				30%	D 10
Aroclor 1254	774		45.1		"		622			22	30%	P-10
Aroclor 1260	354		45.1				682			63	30%	P-10, Q-0
Surr: Decachlorobiphenyl (Surr)		кес	overy: 103 %	Limits: 72-1.	26 %	Dili	ution: 2x					
Matrix Spike (4050757-MS1)				Prepa	ared: 05/	28/14 11:59	Analyzed:	05/28/14 1	8:18			C-07
QC Source Sample: 140527-32' Pole EPA 8082A	LIP (A4E06	74-04RE1)										
Aroclor 1016	382		41.7	ug/kg dry	2	261	ND	146	47-134%			Q-43
Aroclor 1260	475		41.7	"	"	"	348	49	53-140%			Q-43

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number: SIC-025Reported:Lake Oswego, OR 97035Project Manager: Aaron Leritz08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			Polychlo	rinated B	iphenyls	by EPA 80)82A					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050757 - EPA 3546							Soi	<u> </u>				
Matrix Spike (4050757-MS1)				Pre	epared: 05	28/14 11:59	Analyzed:	05/28/14 18	:18			C-07
QC Source Sample: 140527-32' Pole	e LIP (A4E06	74-04RE1)										
Surr: Decachlorobinhenyl (Surr)		Re	covery: 82 %	Limits: 72	2-126%	Dila	ution: 2x					

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			Polychlo	rinated Bipl	nenyls	by EPA 80	82A					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060014 - EPA 3546							Soi	I				
Blank (4060014-BLK1)				Prepa	red: 06/	02/14 09:10	Analyzed:	06/03/14 09	9:09			C-07
EPA 8082A												
Aroclor 1016	ND		9.09	ug/kg wet	1							
Aroclor 1221	ND		9.09	"	"							
Aroclor 1232	ND		9.09	"	"							
Aroclor 1242	ND		9.09	"	"							
Aroclor 1248	ND		9.09	"	"							
Aroclor 1254	ND		9.09	"	"							
Aroclor 1260	ND		9.09	"	"							
Surr: Decachlorobiphenyl (Surr)		Rec	overy: 103 %	Limits: 72-12	26 %	Dilu	tion: 1x					Q-41
LCS (4060014-BS1)				Prepa	red: 06/	02/14 09:10	Analyzed:	06/03/14 09	9:28			C-07
EPA 8082A												
Aroclor 1016	211		10.0	ug/kg wet	1	250		85	47-134%			
Aroclor 1260	231		10.0	"	"	"		92	53-140%			
Surr: Decachlorobiphenyl (Surr)		Re	covery: 95 %	Limits: 72-12	26 %	Dilu	tion: 1x					Q-41
Matrix Spike (4060014-MS1)				Prepa	red: 06/	02/14 09:10	Analyzed:	06/03/14 10	0:05			C-07
QC Source Sample: 140530-325ESV	V1 (A4E0765	-01)										
EPA 8082A												
Aroclor 1016	445		21.2	ug/kg dry	1	529	ND	84	47-134%			
Aroclor 1260	689		21.2	"	"	"	105	110	53-140%			
Surr: Decachlorobiphenyl (Surr)		Rec	overy: 105 %	Limits: 72-12	26 %	Dilu	tion: 1x					Q-41

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			Polychlo	rinated Bipl	nenyls	by EPA 80	82A					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060113 - EPA 3546							Soi	l				
Blank (4060113-BLK1)				Prepa	red: 06/	05/14 07:05	Analyzed:	06/06/14 09	9:31			C-0
EPA 8082A												
Aroclor 1016	ND		7.69	ug/kg wet	1							
Aroclor 1221	ND		7.69	"	"							
Aroclor 1232	ND		7.69	"	"							
Aroclor 1242	ND		7.69	"	"							
Aroclor 1248	ND		7.69	"	"							
Aroclor 1254	ND		7.69	"	"							
Aroclor 1260	ND		7.69	"	"							
Surr: Decachlorobiphenyl (Surr)		Re	ecovery: 98 %	Limits: 72-12	26 %	Dilı	ution: 1x					
LCS (4060113-BS1)				Prepa	red: 06/	05/14 07:05	Analyzed:	06/06/14 09	9:50			C-0
EPA 8082A												
Aroclor 1016	235		10.0	ug/kg wet	1	250		94	47-134%			
Aroclor 1260	297		10.0	"	"	"		119	53-140%			
Surr: Decachlorobiphenyl (Surr)		Re	ecovery: 98 %	Limits: 72-12	26 %	Dilı	ution: 1x					
Matrix Spike (4060113-MS1)				Prepa	red: 06/	05/14 07:05	Analyzed:	06/06/14 11	:03			C-0
QC Source Sample: 140530-318'Pole	Lip (A4E07	58-01RE2)										
EPA 8082A												
Aroclor 1016	237		12.4	ug/kg dry	1	310	ND	76	47-134%			
Aroclor 1260	296		12.4	"	"	"	8.09	93	53-140%			
Surr: Decachlorobiphenyl (Surr)		Re	ecovery: 82 %	Limits: 72-12	26 %	Dilı	ution: 1x					

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			Polychlo	rinated Bip	henyls	by EPA 80	82A					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060274 - EPA 3546							Soi	l				
Blank (4060274-BLK2)				Prep	ared: 06	11/14 06:31	Analyzed:	06/11/14 2	1:26			C-07
EPA 8082A												
Aroclor 1016	ND		10.0	ug/kg wet	1							
Aroclor 1221	ND		10.0	"	"							
Aroclor 1232	ND		10.0	"	"							
Aroclor 1242	ND		10.0	"	"							
Aroclor 1248	ND		10.0	"	"							
Aroclor 1254	ND		10.0	"	"							
Aroclor 1260	ND		10.0	"	"							
Surr: Decachlorobiphenyl (Surr)		Re	covery: 89 %	Limits: 72-	26 %	Dilı	ution: 1x					
LCS (4060274-BS1)				Prep	ared: 06	11/14 06:31	Analyzed:	06/11/14 2	1:45			C-07, Q-18
EPA 8082A												
Aroclor 1016	187		10.0	ug/kg wet	1	250		75	47-134%			
Aroclor 1260	258		10.0	"	"	"		103	53-140%			
Surr: Decachlorobiphenyl (Surr)		Re	covery: 87 %	Limits: 72-	26 %	Dilı	ıtion: 1x					

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number:SIC-025Reported:Lake Oswego, OR 97035Project Manager:Aaron Leritz08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			D'			C., '1	C		0/DEC		DDD	
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050460 - EPA 3546							Soil					
Blank (4050460-BLK1)				Pre	pared: 05/	15/14 16:47	Analyzed:	05/16/14 (9:50			
EPA 8270D												
Bis(2-ethylhexyl)phthalate	ND		30.8	ug/kg wet	1							
Surr: Nitrobenzene-d5 (Surr)		Rece	overy: 88 %	Limits: 37	-122 %	Dilu	tion: 1x					
2-Fluorobiphenyl (Surr)			97 %	44-	115 %		"					
Phenol-d6 (Surr)			97 %	33-	122 %		"					
p-Terphenyl-d14 (Surr)			96 %	54-	127 %		"					
2-Fluorophenol (Surr)			96 %	35-	115 %		"					
2,4,6-Tribromophenol (Surr)			93 %	39-	132 %		"					Q-4.
LCS (4050460-BS1)				Pre	pared: 05/	15/14 16:47	Analyzed:	05/16/14 1	0:28			
EPA 8270D												
Bis(2-ethylhexyl)phthalate	880		40.0	ug/kg wet	1	800		110	51-133%			
Surr: Nitrobenzene-d5 (Surr)		Reco	very: 102 %	Limits: 37	-122 %	Dilu	tion: 1x					
2-Fluorobiphenyl (Surr)			104 %	44-	115 %		"					
Phenol-d6 (Surr)			111 %	33-	122 %		"					
p-Terphenyl-d14 (Surr)			104 %	54-	127 %		"					
2-Fluorophenol (Surr)			112 %	35-	115 %		"					
2,4,6-Tribromophenol (Surr)			117 %	39-	132 %		"					Q-4
Duplicate (4050460-DUP1)				Pre	pared: 05/	15/14 16:47	Analyzed:	05/16/14 1	1:43			
QC Source Sample: 140515-NSW1 (A	A4E0393-01))										
EPA 8270D												
Bis(2-ethylhexyl)phthalate	1370		1110	ug/kg dry	10		3120			78	30%	Q-04
Surr: Nitrobenzene-d5 (Surr)		Rece	overy: 96 %	Limits: 37	-122 %	Dilu	tion: 10x					
2-Fluorobiphenyl (Surr)			96 %	44-	115 %		"					
Phenol-d6 (Surr)			95 %	33-	122 %		"					
p-Terphenyl-d14 (Surr)			94 %	54-	127 %		"					
2-Fluorophenol (Surr)			99 %	35-	115 %		"					
2,4,6-Tribromophenol (Surr)			109 %	39-	132 %		"					Q-4
Matrix Spike (4050460-MS1)				Pre	pared: 05/	15/14 16:47	Analyzed:	05/16/14 1	3:22			
QC Source Sample: 140515-SSW4 (A	4E0393-14)											
EPA 8270D												
Bis(2-ethylhexyl)phthalate	874		79.2	ug/kg dry	4	792	ND	110	51-133%			

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

		Sei	mivolatile	Organic (Compou	nds by EP/	4 8270D				
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits R	RPD PD Limit	Notes
Batch 4050460 - EPA 3546							Soil				
Matrix Spike (4050460-MS1)				Pre	epared: 05/	/15/14 16:47	Analyzed: (05/16/14 13	:22		
QC Source Sample: 140515-SSW4	(A4E0393-14)										
Surr: 2-Fluorobiphenyl (Surr)		Reco	very: 97 %	Limits: 44	4-115 %	Dilı	ıtion: 4x				
Phenol-d6 (Surr)			100 %	33	3-122 %		"				
p-Terphenyl-d14 (Surr)			94 %	54	1-127 %		"				
2-Fluorophenol (Surr)			94 %	35	5-115 %		"				
2,4,6-Tribromophenol (Surr)			116 %	39	0-132 %		"				

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number: SIC-025Reported:Lake Oswego, OR 97035Project Manager: Aaron Leritz08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			emivolatile	J. 9 w. 110	20p00							
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050756 - EPA 3546							Soi	I				
Blank (4050756-BLK1)				P	repared: 05	/28/14 11:57	Analyzed:	05/28/14 1	5:44			
EPA 8270D												
Bis(2-ethylhexyl)phthalate	ND		16.7	ug/kg w	et 1							
Surr: Nitrobenzene-d5 (Surr)		Re	covery: 87 %	Limits:	37-122 %	Dill	ution: 1x					
2-Fluorobiphenyl (Surr)			82 %	4	14-115 %		"					
Phenol-d6 (Surr)			92 %	3	33-122 %		"					
p-Terphenyl-d14 (Surr)			92 %	5	54-127 %		"					
2-Fluorophenol (Surr)			83 %	Ĵ	85-115 %		"					
2,4,6-Tribromophenol (Surr)			75 %	Ĵ	39-132 %		"					
LCS (4050756-BS1)				P	repared: 05	/28/14 11:57	Analyzed:	05/28/14 1	6:20			
EPA 8270D					-		-					
Bis(2-ethylhexyl)phthalate	710		80.0	ug/kg w	et 4	800		89	51-133%			
Surr: Nitrobenzene-d5 (Surr)		Re	covery: 91 %	Limits:	37-122 %	Dill	ution: 4x					
2-Fluorobiphenyl (Surr)			85 %	4	14-115 %		"					
Phenol-d6 (Surr)			95 %	Ĵ	33-122 %		"					
p-Terphenyl-d14 (Surr)			87 %	5	54-127 %		"					
2-Fluorophenol (Surr)			84 %	3	35-115 %		"					
2,4,6-Tribromophenol (Surr)			87 %	3	89-132 %		"					
Duplicate (4050756-DUP2)				P	repared: 05	/28/14 11:57	Analyzed:	05/29/14 1	1:05			
QC Source Sample: 140527-25 ESW	V4' (A4E0674	4-02RE1)										
EPA 8270D												
Bis(2-ethylhexyl)phthalate	ND		41.3	ug/kg d	ry 1		22.1			***	30%	
Surr: Nitrobenzene-d5 (Surr)		Re	covery: 84 %	Limits:	37-122 %	Dili	ution: 1x					
2-Fluorobiphenyl (Surr)			79 %	4	14-115 %		"					
Phenol-d6 (Surr)			94 %	ŝ	33-122 %		"					
p-Terphenyl-d14 (Surr)			78 %	3	54-127 %		"					
2-Fluorophenol (Surr)			93 %	ŝ	35-115 %		"					
2,4,6-Tribromophenol (Surr)			104 %	ŝ	39-132 %		"					
Matrix Spike (4050756-MS2)				P	repared: 05	/28/14 11:57	Analyzed:	05/29/14 1	2:11			
QC Source Sample: 140527-32' Pole	e LIP (A4E06	574-04RE1)										
EPA 8270D												
Bis(2-ethylhexyl)phthalate	1070		383	ug/kg d	ry 4	765	293	102	51-133%			
Surr: Nitrobenzene-d5 (Surr)		-	covery: 79 %	Limits:			ution: 4x					

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number: SIC-025Reported:Lake Oswego, OR 97035Project Manager: Aaron Leritz08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

Recovery: 76 % Limits: 44-115 % Dilution: 4x Phenol-d6 (Surr) Prephenyl-d14 (Surr) 91 % 54-127 % Prephenyl-d14 (Surr) Prephenyl-d14 (Surr) 91 % 54-127 % Prephenyl-d14 (Surr) Prephenyl-d14 (Surr												
Analyte	Result	MDL		Units	Dil.			%REC		RPD		Notes
Batch 4050756 - EPA 3546							Soil					
Matrix Spike (4050756-MS2)				Pre	epared: 05/	28/14 11:57	Analyzed: (05/29/14 12	:11			
QC Source Sample: 140527-32' Pole	LIP (A4E06	74-04RE1)										
Surr: 2-Fluorobiphenyl (Surr)		Re	covery: 76 %	Limits: 44	-115 %	Dilu	tion: 4x					
Phenol-d6 (Surr)			90 %	33	-122 %		"					
p-Terphenyl-d14 (Surr)			91 %	54	-127 %		"					
2-Fluorophenol (Surr)			69 %	35	-115 %		"					
2,4,6-Tribromophenol (Surr)			103 %	39	-132 %		"					

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			mivolatile	Organic C	Jonipou	ius by EF	~ 021 UD					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060003 - EPA 3546							Soi	I				
Blank (4060003-BLK2)				Pre	pared: 06/	02/14 07:30	Analyzed:	06/02/14 1	2:25			
EPA 8270D												
Bis(2-ethylhexyl)phthalate	ND		46.2	ug/kg wet	: 1							
Surr: Nitrobenzene-d5 (Surr)		Rece	overy: 83 %	Limits: 37	-122 %	Dilı	ution: 1x					
2-Fluorobiphenyl (Surr)			72 %	44	-115 %		"					
Phenol-d6 (Surr)			86 %	33-	-122 %		"					
p-Terphenyl-d14 (Surr)			81 %	54-	-127 %		"					
2-Fluorophenol (Surr)			76 %	35-	-115 %		"					
2,4,6-Tribromophenol (Surr)			72 %	39	-132 %		"					
LCS (4060003-BS1)				Pre	pared: 06/	02/14 07:30	Analyzed:	06/02/14 1	3:02			
EPA 8270D							-					
Bis(2-ethylhexyl)phthalate	641		60.0	ug/kg wet	: 1	800		80	51-133%			
Surr: Nitrobenzene-d5 (Surr)		Rece	overy: 84 %	Limits: 37	-122 %	Dilı	ution: 1x					
2-Fluorobiphenyl (Surr)			73 %	44	-115 %		"					
Phenol-d6 (Surr)			88 %	33-	-122 %		"					
p-Terphenyl-d14 (Surr)			77 %	54	-127 %		"					
2-Fluorophenol (Surr)			79 %	35-	-115 %		"					
2,4,6-Tribromophenol (Surr)			81 %	39.	-132 %		"					
Duplicate (4060003-DUP1)				Pre	pared: 06/	02/14 07:30	Analyzed:	06/03/14 1	3:26			R-0
QC Source Sample: 140530-332'Pole 3	3 Lip (A4E0	758-02RE1)										
EPA 8270D												
Bis(2-ethylhexyl)phthalate	ND		228	ug/kg dry	4		ND				30%	
Surr: Nitrobenzene-d5 (Surr)		Reco	very: 105 %	Limits: 37	-122 %	Dilı	ution: 4x					
2-Fluorobiphenyl (Surr)			90 %	44	-115 %		"					
Phenol-d6 (Surr)			102 %	33-	-122 %		"					
p-Terphenyl-d14 (Surr)			96 %	54-	-127 %		"					
2-Fluorophenol (Surr)			91 %	35-	-115 %		"					
2,4,6-Tribromophenol (Surr)			90 %	39	-132 %		"					
Matrix Spike (4060003-MS1)				Pre	pared: 06/	02/14 07:30	Analyzed:	06/02/14 1	5:27			
QC Source Sample: 140530-325ESW1	(A4E0765-	01)					-					
EPA 8270D												
Bis(2-ethylhexyl)phthalate	675		559	ug/kg dry	10	746	578	13	51-133%			Q-01

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D														
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits RPD	RPD Limit	Notes			
Batch 4060003 - EPA 3546							Soil							
Matrix Spike (4060003-MS1)				Pre	epared: 06/	/02/14 07:30	Analyzed: (06/02/14 15	:27					
QC Source Sample: 140530-325ESV	W1 (A4E0765	-01)												
Surr: 2-Fluorobiphenyl (Surr)		Rec	overy: 64 %	Limits: 4	4-115 %	Dilı	ution: 10x							
Phenol-d6 (Surr)			70 %	33	3-122 %		"							
p-Terphenyl-d14 (Surr)			75 %	54	4-127 %		"							
2-Fluorophenol (Surr)			60 %	35	5-115 %		"							
2,4,6-Tribromophenol (Surr)			80 %	39	9-132 %		"							

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Bridgewater Group Project: Doane Lake Soil Cap Source

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Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

		Se	emivolatile	Organic C	ompou	nds by EP	A 8270D					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060254 - EPA 3546							Soi	l				
Blank (4060254-BLK1)				Pre	pared: 06/	10/14 10:37	Analyzed:	06/10/14 14	4:33			
EPA 8270D												
Bis(2-ethylhexyl)phthalate	ND		36.4	ug/kg wet	1							
Surr: Nitrobenzene-d5 (Surr)		Rec	overy: 96 %	Limits: 37-	-122 %	Dilı	ution: 1x					Q-41
2-Fluorobiphenyl (Surr)			85 %	44-	115 %		"					
Phenol-d6 (Surr)			96 %	33-	122 %		"					
p-Terphenyl-d14 (Surr)			97 %	54-	127 %		"					
2-Fluorophenol (Surr)			85 %	35-	115 %		"					
2,4,6-Tribromophenol (Surr)			76 %	39-	132 %		"					
LCS (4060254-BS1)				Pre	pared: 06/	10/14 10:37	Analyzed:	06/10/14 1:	5:09			Q-1
EPA 8270D				<u> </u>								
Bis(2-ethylhexyl)phthalate	867		40.0	ug/kg wet	1	800		108	51-133%			
Surr: Nitrobenzene-d5 (Surr)		Reco	very: 102 %	Limits: 37-	122 %	Dilı	ution: 1x					Q-41
2-Fluorobiphenyl (Surr)			86 %	44-	115 %		"					
Phenol-d6 (Surr)			101 %	33-	122 %		"					
p-Terphenyl-d14 (Surr)			96 %	54-	127 %		"					
2-Fluorophenol (Surr)			89 %	35-	115 %		"					
2,4,6-Tribromophenol (Surr)			92 %	39-	132 %		"					
Duplicate (4060254-DUP2)				Pre	pared: 06/	10/14 10:37	Analyzed:	06/11/14 11	1:43			
QC Source Sample: 140609-25 ESW	1' (A4F0188	-01RE1)	·									
EPA 8270D												
Bis(2-ethylhexyl)phthalate	915		427	ug/kg dry	10		751			20	30%	
Surr: Nitrobenzene-d5 (Surr)		Rec	overy: 81 %	Limits: 37-	-122 %	Dilı	ıtion: 10x					Q-41
2-Fluorobiphenyl (Surr)			72 %	44-	115 %		"					
Phenol-d6 (Surr)			81 %	33-	122 %		"					
p-Terphenyl-d14 (Surr)			94 %	54-	127 %		"					
2-Fluorophenol (Surr)			67 %	35-	115 %		"					
2,4,6-Tribromophenol (Surr)			100 %	30	132 %		"					

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number: SIC-025Reported:Lake Oswego, OR 97035Project Manager: Aaron Leritz08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)														
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes		
Batch 4050477 - EPA 3051	A						Soi	l						
Blank (4050477-BLK1)				Prep	ared: 05/	16/14 08:49	Analyzed:	05/16/14 1	1:45					
EPA 6020A														
Cadmium	ND		0.200	mg/kg wet	10									
Lead	ND		0.200	"	"									
Mercury	ND		0.160	"	"									
LCS (4050477-BS1)				Prep	ared: 05/	16/14 08:49	Analyzed:	05/16/14 1	1:48					
EPA 6020A														
Cadmium	51.6		0.200	mg/kg wet	10	50.0		103	80-120%					
Lead	54.3		0.200	"	"	"		109	"					
Mercury	1.06		0.160	"	"	1.00		106	"					
Duplicate (4050477-DUP1)				Prepa	ared: 05/	16/14 08:49	Analyzed:	05/16/14 1	2:08					
QC Source Sample: 140515-125 ES	W1 (A4E0393	3-04)												
EPA 6020A														
Cadmium	ND		0.271	mg/kg dry	10		0.272			***	40%			
Lead	16.5		0.271	"	"		19.5			17	40%			
Mercury	ND		0.217	"	"		ND				40%			
Matrix Spike (4050477-MS1)				Prep	ared: 05/	16/14 08:49	Analyzed:	05/16/14 1	2:11					
QC Source Sample: 140515-125 ES EPA 6020A	W1 (A4E0393	3-04)												
Cadmium	68.9		0.268	mg/kg dry	10	66.9	0.272	103	75-125%					
Lead	85.2		0.268	"	"	"	19.5	98	"					
Mercury	1.39		0.214	"	"	1.34	ND	104	,,					

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number:SIC-025Reported:Lake Oswego, OR 97035Project Manager:Aaron Leritz08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)													
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 4050758 - EPA 3051	A						Soi	<u> </u>					
Blank (4050758-BLK1)				Prep	ared: 05/	28/14 12:11	Analyzed:	05/29/14 10	6:07				
EPA 6020A													
Cadmium	ND		0.200	mg/kg wet	10								
Lead	ND		0.200	"	"								
Mercury	ND		0.0800	"	"								
LCS (4050758-BS1)				Prep	ared: 05/	28/14 12:11	Analyzed:	05/29/14 10	6:10				
EPA 6020A													
Cadmium	56.9		0.200	mg/kg wet	10	50.0		114	80-120%				
Lead	57.7		0.200	"	"	"		115	"				
Mercury	1.06		0.0800	"	"	1.00		106	"				
Matrix Spike (4050758-MS2)				Prep	ared: 05/	28/14 12:11	Analyzed:	05/29/14 10	6:46				
QC Source Sample: 140527-32' Pole	e LIP (A4E06	74-04)											
EPA 6020A													
Cadmium	67.7		0.232	mg/kg dry	10	58.1	3.81	110	75-125%				
Lead	228		0.232	"	"	"	192	62	"			Q-03, Q-	
Mercury	1.37		0.0929	"	"	1.16	0.160	104	"				

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number: SIC-025Reported:Lake Oswego, OR 97035Project Manager: Aaron Leritz08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			Total	Metals by E	PA 60	20 (ICPMS	5)					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050778 - EPA 3051	A						Soi	l				
Blank (4050778-BLK1)				Prepa	ared: 05/	29/14 08:19	Analyzed:	05/29/14 13	3:33			
EPA 6020A												
Cadmium	ND		0.200	mg/kg wet	10							
Lead	ND		0.200	"	"							
Mercury	ND		0.0800	"	"							
LCS (4050778-BS1)				Prepa	ared: 05/	29/14 08:19	Analyzed:	05/29/14 13	3:36			
EPA 6020A												
Cadmium	53.6		0.200	mg/kg wet	10	50.0		107	80-120%			
Lead	54.1		0.200	"	"	"		108	"			
Mercury	1.00		0.0800	"	"	1.00		100	"			Q-41
Duplicate (4050778-DUP1)				Prepa	ared: 05/	29/14 08:19	Analyzed:	05/29/14 1:	5:05			
QC Source Sample: 140528 - 325ES	W1' (A4E07	04-04)										
EPA 6020A												
Cadmium	3.79		0.232	mg/kg dry	10		5.03			28	40%	
Lead	226		0.232	"	"		254			12	40%	Q-41
Mercury	0.165		0.0926	"	"		0.163			1	40%	
Matrix Spike (4050778-MS1)				Prepa	ared: 05/	29/14 08:19	Analyzed:	05/29/14 1:	5:08			
QC Source Sample: 140528 - 325ES EPA 6020A	W1' (A4E07	04-04)										
Cadmium	59.6		0.213	mg/kg dry	10	53.3	5.03	102	75-125%			
Lead	260		0.213	"	"	"	254	11	"			Q-03, Q-41
Mercury	1.16		0.0853	"	"	1.07	0.163	94	"			

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)														
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes		
Batch 4060126 - EPA 30	51A						Soi	I						
Blank (4060126-BLK1)				Prep	ared: 06/	05/14 09:16	Analyzed:	06/05/14 1	4:53					
EPA 6020A														
Cadmium	ND		0.200	mg/kg wet	10									
Lead	ND		0.200	"	"									
Mercury	ND		0.0800	"	"									
LCS (4060126-BS1)				Prep	ared: 06/	05/14 09:16	Analyzed:	06/05/14 1	4:56					
EPA 6020A														
Cadmium	47.2		0.200	mg/kg wet	10	50.0		94	80-120%					
Lead	47.5		0.200	"	"	"		95	"					
Mercury	0.894		0.0800	"	"	1.00		89	"					

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			Total	Metals by I	EPA 602	20 (ICPMS)					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060330 - EPA 3051 <i>A</i>	١						Soi	l				
Blank (4060330-BLK1)				Prep	ared: 06/	12/14 09:02	Analyzed:	06/12/14 1	3:16			
EPA 6020A												
Arsenic	ND		1.00	mg/kg wet	10							
Barium	ND		1.00	"	"							
Cadmium	ND		0.200	"	"							
Chromium	ND		1.00	"	"							
Lead	ND		1.00	"	"							
Mercury	ND		0.160	"	"							
Selenium	ND		1.00	"	"							Q-29
Silver	ND		0.200	"	"							
LCS (4060330-BS1)				Prep	ared: 06/	12/14 09:02	Analyzed:	06/12/14 1	3:18			
EPA 6020A												
Arsenic	57.3		1.00	mg/kg wet	10	50.0		115	80-120%			
Barium	56.1		1.00	"	"	"		112	"			
Cadmium	56.9		0.200	"	"	"		114	"			
Chromium	55.0		1.00	"	"	"		110	"			
Lead	59.0		1.00	"	"	"		118	"			
Mercury	1.11		0.160	"	"	1.00		111	"			
Selenium	30.6		1.00	"	"	25.0		123	"			Q-29, Q-41
Silver	27.9		0.200	"	"	"		112	"			
Matrix Spike (4060330-MS2)				Prep	ared: 06/	12/14 09:02	Analyzed:	06/12/14 1	4:53			
QC Source Sample: 140609-20 ESW	4' Lip (A4F0	0188-07)										
EPA 6020A												
Arsenic	77.6		1.19	mg/kg dry	10	59.7	18.9	98	75-125%			
Cadmium	90.2		0.238	"	"	"	36.9	89	"			
Chromium	192		1.19	"	"	"	107	143	"			Q-03
Selenium	31.6		1.19	"	"	29.8	1.73	100	"			Q-29
Silver	31.8		0.238	"	"	"	1.38	102	"			
Matrix Spike (4060330-MS4)				Pren	ared: 06/	12/14 09:02	Analyzed:	06/12/14 1	5.34			

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QC Source Sample: 140609-20 ESW4' Lip (A4F0188-07RE1)

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Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

QUALITY CONTROL (QC) SAMPLE RESULTS

			Total	Metals by I	PA 60	20 (ICPMS))					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060330 - EPA 305	1 A						Soi	l				
Matrix Spike (4060330-MS4)				Prepa	ared: 06/	12/14 09:02	Analyzed:	06/12/14	15:34			
QC Source Sample: 140609-20 ES	W4' Lip (A4F0	0188-07RE1)									
EPA 6020A												
Barium	798		11.9	mg/kg dry	100	59.7	839	-69	75-125%			Q-03, Q-16
Lead	2230		11.9	"	"	"	1630	1010	"			Q-03, Q-16
Mercury	11.2		1.91	"	"	1.19	6.10	428	"			Q-03, Q-16

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QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)														
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes		
Batch 4060091 - EPA 1311	/3015						Soil	<u> </u>						
Blank (4060091-BLK1)				Pre	pared: 06/	04/14 10:37	Analyzed:	06/05/14 1	3:22					
1311/6020A Lead	ND		0.0500	mg/L	5							TCLP		
LCS (4060091-BS1)				Pre	pared: 06/	04/14 10:37	Analyzed:	06/05/14 1	3:25					
1311/6020A Lead	2.40		0.0500	mg/L	5	2.50		96	80-120%			TCLP		
Matrix Spike (4060091-MS1)				Pre	pared: 06/	04/14 10:37	Analyzed:	06/05/14 1	3:48					
QC Source Sample: 140528 - 225ES 1311/6020A	SW16in (A4E	0704-01)												
Lead	2.83		0.0500	mg/L	5	2.50	0.416	97	50-150%					

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QUALITY CONTROL (QC) SAMPLE RESULTS

			TCLP	Metals by	EPA 60	20 (ICPMS	5)					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4060379 - EPA 13	11/3015						Soi	I				
Blank (4060379-BLK1)				Prej	pared: 06/	13/14 10:22	Analyzed:	06/13/14 1	3:24			
1311/6020A												
Arsenic	ND		0.200	mg/L	10							TCLF
Barium	ND		1.00	"	"							TCLI
Cadmium	ND		0.100	"	"							TCLI
Chromium	ND		0.200	"	"							TCLF
Lead	ND		0.100	"	"							TCLF
Mercury	ND		0.00800	"	"							TCLF
Selenium	ND		0.200	"	"							TCLF
Silver	ND		0.100	"	"							TCLF
LCS (4060379-BS1)				Prej	pared: 06/	13/14 10:22	Analyzed:	06/13/14 1	3:32			
1311/6020A												
Arsenic	3.00		0.200	mg/L	10	2.50		120	80-120%			TCLI
Barium	2.87		1.00	"	"	"		115	"			TCLI
Cadmium	2.97		0.100	"	"	"		119	"			TCLI
Chromium	2.76		0.200	"	"	"		110	"			TCLI
Lead	2.86		0.100	"	"	"		114	"			TCLI
Mercury	0.0541		0.00800	"	"	0.0500		108	"			TCLI
Selenium	3.38		0.200	"	"	2.50		135	"			Q-29 TCLI
Silver	1.33		0.100	"	"	1.25		107	"			TCLE

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QUALITY CONTROL (QC) SAMPLE RESULTS

	TCLP Metals by EPA 6020 (ICPMS)														
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes			
Batch 4060467 - EPA 13	11/3015						Soi	I							
Blank (4060467-BLK1)	, , , , , , , , , , , , , , , , , , ,														
1311/6020A															
Cadmium	ND		0.0500	mg/L	5							TCLPb			
Lead	ND		0.0500	"	"							TCLPb			
Mercury	ND		0.00400	"	"							TCLPb			
LCS (4060467-BS1)				Pre	pared: 06/	17/14 12:12	Analyzed:	06/17/14	16:06						
1311/6020A															
Cadmium	2.46		0.0500	mg/L	5	2.50		98	80-120%			TCLPb			
Lead	2.57		0.0500	"	"	"		103	"			Q-41, TCLPb			
Mercury	0.0475		0.00400	"	"	0.0500		95	"			TCLPb			

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Bridgewater Group Project: Doane Lake Soil Cap Source

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QUALITY CONTROL (QC) SAMPLE RESULTS

				Percent	Dry Wei	ght						
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050448 - Tota	l Solids (Dry W	eight)					Soil					
Duplicate (4050448-DUP4	4)			Prep	pared: 05/	15/14 17:15	Analyzed:	05/16/14 11	:23			
QC Source Sample: 140515- EPA 8000C	125 ESW4 (A4E0393	3-05)										
% Solids	74.6		1.00	% by Weight	1		75.8			2	20%	
				, ,	mara info	ormation						
No Client related Bate	ch QC samples anal	yzed for thi	s batch. See n	otes page for	more inic	mation.						
No Client related Bate Batch 4050763 - Tota		-	s batch. See n	otes page for	more mic	mation.	Soil					
	l Solids (Dry Wo	eight)					Soil					
Batch 4050763 - Tota	I Solids (Dry We	eight) yzed for thi					Soil Soil					
Batch 4050763 - Tota No Client related Bate	I Solids (Dry Wo	eight) yzed for thi	s batch. See n	otes page for	more info	ormation.						
No Client related Batch 4060025 - Tota No Client related Batch	I Solids (Dry Wo ch QC samples anal I Solids (Dry Wo ch QC samples anal	eight) yzed for thi eight) yzed for thi	s batch. See n	otes page for	more info	ormation.						
Batch 4050763 - Tota No Client related Batch Batch 4060025 - Tota	I Solids (Dry Wo ch QC samples anal I Solids (Dry Wo ch QC samples anal I Solids (Dry Wo	eight) yzed for thi eight) yzed for thi	s batch. See n	otes page for	more info	ormation.	Soil		:31			
Batch 4050763 - Tota No Client related Batch Batch 4060025 - Tota No Client related Batch Batch 4060258 - Tota	I Solids (Dry Wo	eight) yzed for thi eight) yzed for thi eight)	s batch. See n	otes page for	more info	ormation.	Soil		:31			
Batch 4050763 - Tota No Client related Batch Batch 4060025 - Tota No Client related Batch Batch 4060258 - Tota Duplicate (4060258-DUP6	I Solids (Dry Wo	eight) yzed for thi eight) yzed for thi eight)	s batch. See n	otes page for	more info	ormation.	Soil		:31			

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
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SAMPLE PREPARATION INFORMATION

		F	Polychlorinated Biphe	enyls by EPA 8082A			
Prep: EPA 3546					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4050465							
A4E0393-03	Soil	EPA 8082A	05/15/14 12:05	05/16/14 06:48	5.05g/5mL	10g/5mL	1.98
A4E0393-04	Soil	EPA 8082A	05/15/14 12:20	05/16/14 06:48	5.71g/5mL	10g/5mL	1.75
A4E0393-05	Soil	EPA 8082A	05/15/14 12:30	05/16/14 06:48	5.03g/5mL	10g/5mL	1.99
A4E0393-06	Soil	EPA 8082A	05/15/14 12:45	05/16/14 06:48	5.8g/5mL	10g/5mL	1.72
A4E0393-08	Soil	EPA 8082A	05/15/14 13:05	05/16/14 06:48	5.36g/5mL	10g/5mL	1.87
A4E0393-09	Soil	EPA 8082A	05/15/14 13:20	05/16/14 06:48	5.35g/5mL	10g/5mL	1.87
A4E0393-12	Soil	EPA 8082A	05/15/14 13:45	05/16/14 06:48	5.9g/5mL	10g/5mL	1.69
A4E0393-14RE1	Soil	EPA 8082A	05/15/14 14:00	05/16/14 06:48	5.22g/5mL	10g/5mL	1.92
Batch: 4050757							
A4E0674-03	Soil	EPA 8082A	05/27/14 15:55	05/28/14 11:59	10.48g/5mL	10g/5mL	0.95
A4E0674-04RE1	Soil	EPA 8082A	05/27/14 16:10	05/28/14 11:59	10.29g/5mL	10g/5mL	0.97
A4E0704-01RE1	Soil	EPA 8082A	05/28/14 14:55	05/28/14 17:37	5.36g/5mL	10g/5mL	1.87
A4E0704-02	Soil	EPA 8082A	05/28/14 15:00	05/28/14 17:37	5.84g/5mL	10g/5mL	1.71
A4E0704-05	Soil	EPA 8082A	05/28/14 15:30	05/28/14 17:37	5.75g/5mL	10g/5mL	1.74
Batch: 4060014							
A4E0758-02RE1	Soil	EPA 8082A	05/30/14 08:15	06/02/14 09:10	5.24g/5mL	10g/5mL	1.91
A4E0758-03	Soil	EPA 8082A	05/29/14 09:25	06/02/14 09:10	5.19g/10mL	10g/5mL	3.85
A4E0758-04	Soil	EPA 8082A	05/29/14 06:30	06/02/14 09:10	5.54g/5mL	10g/5mL	1.81
A4E0765-01	Soil	EPA 8082A	05/30/14 09:30	06/02/14 09:10	5.28g/5mL	10g/5mL	1.89
Batch: 4060113							
A4E0758-01RE2	Soil	EPA 8082A	05/30/14 08:10	06/05/14 07:05	12.16g/5mL	10g/5mL	0.82
Batch: 4060274							
A4F0188-01	Soil	EPA 8082A	06/09/14 08:30	06/11/14 06:31	5.57g/5mL	10g/5mL	1.80
A4F0188-02	Soil	EPA 8082A	06/09/14 08:35	06/11/14 06:31	5.89g/5mL	10g/5mL	1.70
A4F0188-03	Soil	EPA 8082A	06/09/14 10:00	06/11/14 06:31	6g/5mL	10g/5mL	1.67
A4F0188-04	Soil	EPA 8082A	06/09/14 13:20	06/11/14 06:31	5.47g/5mL	10g/5mL	1.83
A4F0188-05	Soil	EPA 8082A	06/09/14 13:25	06/11/14 06:31	6.11g/5mL	10g/5mL	1.64
A4F0188-06	Soil	EPA 8082A	06/09/14 13:50	06/11/14 06:31	5.97g/5mL	10g/5mL	1.68
A4F0188-07RE1	Soil	EPA 8082A	06/09/14 13:53	06/11/14 06:31	5.28g/5mL	10g/5mL	1.89
					-		

Prep: EPA 3546

Lab Number Matrix Method Sampled Prepared Initial/Final Initial/Final Factor

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

SAMPLE PREPARATION INFORMATION

		Sem	ivolatile Organic Con	npounds by EPA 8270	D		
Prep: EPA 3546					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4050460							
A4E0393-03RE1	Soil	EPA 8270D	05/15/14 12:05	05/15/14 16:47	12.25g/2mL	10g/2mL	0.82
A4E0393-04RE1	Soil	EPA 8270D	05/15/14 12:20	05/15/14 16:47	12.86g/2mL	10g/2mL	0.78
A4E0393-05	Soil	EPA 8270D	05/15/14 12:30	05/15/14 16:47	12.08g/2mL	10g/2mL	0.83
A4E0393-06	Soil	EPA 8270D	05/15/14 12:45	05/15/14 16:47	12.79g/2mL	10g/2mL	0.78
A4E0393-08	Soil	EPA 8270D	05/15/14 13:05	05/15/14 16:47	12.47g/2mL	10g/2mL	0.80
A4E0393-09	Soil	EPA 8270D	05/15/14 13:20	05/15/14 16:47	12.09g/2mL	10g/2mL	0.83
A4E0393-12	Soil	EPA 8270D	05/15/14 13:45	05/15/14 16:47	12.91g/2mL	10g/2mL	0.78
A4E0393-14	Soil	EPA 8270D	05/15/14 14:00	05/15/14 16:47	12.65g/2mL	10g/2mL	0.79
Batch: 4050756							
A4E0674-03RE1	Soil	EPA 8270D	05/27/14 15:55	05/28/14 11:57	11.82g/2mL	10g/2mL	0.85
A4E0674-04RE1	Soil	EPA 8270D	05/27/14 16:10	05/28/14 11:57	11.55g/5mL	10g/2mL	2.16
A4E0704-01	Soil	EPA 8270D	05/28/14 14:55	05/28/14 17:55	10.91g/5mL	10g/2mL	2.29
A4E0704-02	Soil	EPA 8270D	05/28/14 15:00	05/28/14 17:55	11.11g/2mL	10g/2mL	0.90
A4E0704-05RE1	Soil	EPA 8270D	05/28/14 15:30	05/28/14 17:55	11.95g/5mL	10g/2mL	2.09
Batch: 4060003					-	-	
A4E0758-01	Soil	EPA 8270D	05/30/14 08:10	06/02/14 07:30	12.04g/2mL	10g/2mL	0.83
A4E0758-02RE1	Soil	EPA 8270D	05/30/14 08:15	06/02/14 07:30	12.62g/2mL	10g/2mL	0.79
A4E0758-03	Soil	EPA 8270D	05/29/14 09:25	06/02/14 07:30	12.71g/5mL	10g/2mL	1.97
A4E0758-04RE1	Soil	EPA 8270D	05/29/14 06:30	06/02/14 07:30	12.77g/2mL	10g/2mL	0.78
A4E0765-01	Soil	EPA 8270D	05/30/14 09:30	06/02/14 07:30	12.75g/2mL	10g/2mL	0.78
Batch: 4060254					-	-	
A4F0188-01RE1	Soil	EPA 8270D	06/09/14 08:30	06/10/14 10:37	10.57g/2mL	10g/2mL	0.95
A4F0188-02RE1	Soil	EPA 8270D	06/09/14 08:35	06/10/14 10:37	10.62g/2mL	10g/2mL	0.94
A4F0188-03RE2	Soil	EPA 8270D	06/09/14 10:00	06/10/14 10:37	10.76g/2mL	10g/2mL	0.93
A4F0188-04RE2	Soil	EPA 8270D	06/09/14 13:20	06/10/14 10:37	10.61g/2mL	10g/2mL	0.94
A4F0188-05RE1	Soil	EPA 8270D	06/09/14 13:25	06/10/14 10:37	10.6g/2mL	10g/2mL	0.94
A4F0188-06	Soil	EPA 8270D	06/09/14 13:50	06/10/14 10:37	10.29g/2mL	10g/2mL	0.97
A4F0188-07RE1	Soil	EPA 8270D	06/09/14 13:53	06/10/14 10:37	10.16g/5mL	10g/2mL	2.46

			Total Metals by EP	A 6020 (ICPMS)			
Prep: EPA 3051A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4050477							

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Bridgewater Group Project: Doane Lake Soil Cap Source

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SAMPLE PREPARATION INFORMATION

			Total Metals by EF	PA 6020 (ICPMS)			
Prep: EPA 3051A					Sample	Default	RL Pre
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
A4E0393-03	Soil	EPA 6020A	05/15/14 12:05	05/16/14 08:49	0.499g/50mL	0.5g/50mL	1.00
A4E0393-04	Soil	EPA 6020A	05/15/14 12:20	05/16/14 08:49	0.478g/50mL	0.5g/50mL	1.05
A4E0393-05	Soil	EPA 6020A	05/15/14 12:30	05/16/14 08:49	0.502 g/50 mL	0.5g/50mL	1.00
A4E0393-06	Soil	EPA 6020A	05/15/14 12:45	05/16/14 08:49	0.463g/50mL	0.5g/50mL	1.08
A4E0393-08	Soil	EPA 6020A	05/15/14 13:05	05/16/14 08:49	0.479g/50mL	0.5g/50mL	1.04
A4E0393-09	Soil	EPA 6020A	05/15/14 13:20	05/16/14 08:49	0.478g/50mL	0.5g/50mL	1.05
A4E0393-12	Soil	EPA 6020A	05/15/14 13:45	05/16/14 08:49	0.472g/50mL	0.5g/50mL	1.06
A4E0393-14	Soil	EPA 6020A	05/15/14 14:00	05/16/14 08:49	0.461g/50mL	0.5g/50mL	1.08
Batch: 4050758							
A4E0674-03	Soil	EPA 6020A	05/27/14 15:55	05/28/14 12:11	0.463g/50mL	0.5g/50mL	1.08
A4E0674-04	Soil	EPA 6020A	05/27/14 16:10	05/28/14 12:11	0.508g/50mL	0.5g/50mL	0.98
Batch: 4050778							
A4E0704-01	Soil	EPA 6020A	05/28/14 14:55	05/29/14 08:19	0.507g/50mL	0.5g/50mL	0.99
A4E0704-02	Soil	EPA 6020A	05/28/14 15:00	05/29/14 08:19	0.498g/50mL	0.5g/50mL	1.00
A4E0704-05	Soil	EPA 6020A	05/28/14 15:30	05/29/14 08:19	0.483g/50mL	0.5g/50mL	1.04
Batch: 4060126							
A4E0758-01	Soil	EPA 6020A	05/30/14 08:10	06/05/14 09:16	0.495g/50mL	0.5g/50mL	1.01
A4E0758-02	Soil	EPA 6020A	05/30/14 08:15	06/05/14 09:16	0.473g/50mL	0.5g/50mL	1.06
A4E0758-03	Soil	EPA 6020A	05/29/14 09:25	06/05/14 09:16	0.519g/50mL	0.5g/50mL	0.96
A4E0758-04	Soil	EPA 6020A	05/29/14 06:30	06/05/14 09:16	0.468g/50mL	0.5g/50mL	1.07
A4E0765-01	Soil	EPA 6020A	05/30/14 09:30	06/05/14 09:16	0.462g/50mL	0.5g/50mL	1.08
Batch: 4060330							
A4F0188-01	Soil	EPA 6020A	06/09/14 08:30	06/12/14 09:02	0.498g/50mL	0.5g/50mL	1.00
A4F0188-02	Soil	EPA 6020A	06/09/14 08:35	06/12/14 09:02	0.497g/50mL	0.5g/50mL	1.01
A4F0188-03	Soil	EPA 6020A	06/09/14 10:00	06/12/14 09:02	0.459g/50mL	0.5g/50mL	1.09
A4F0188-04	Soil	EPA 6020A	06/09/14 13:20	06/12/14 09:02	0.483g/50mL	0.5g/50mL	1.04
A4F0188-05	Soil	EPA 6020A	06/09/14 13:25	06/12/14 09:02	0.462g/50mL	0.5g/50mL	1.08
A4F0188-06	Soil	EPA 6020A	06/09/14 13:50	06/12/14 09:02	0.461g/50mL	0.5g/50mL	1.08
A4F0188-07	Soil	EPA 6020A	06/09/14 13:53	06/12/14 09:02	0.466g/50mL	0.5g/50mL	1.07
A4F0188-07RE1	Soil	EPA 6020A	06/09/14 13:53	06/12/14 09:02	0.466g/50mL	0.5g/50mL	1.07

TCLP Extraction by EPA 1311

Prep: EPA 1311 (TCLP)

Lab Number Matrix Method Sampled Prepared Initial/Final Initial/Final Factor

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

SAMPLE PREPARATION INFORMATION

			TCLP Extraction	1 by EPA 1311			
Prep: EPA 1311 (T	CLP)				Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4060060							
A4E0674-04	Soil	EPA 1311	05/27/14 16:10	06/03/14 17:30	99.97g/1999mL	100g/2000mL	NA
A4E0704-01	Soil	EPA 1311	05/28/14 14:55	06/03/14 17:30	99.8g/1996mL	100g/2000mL	NA
A4E0704-02	Soil	EPA 1311	05/28/14 15:00	06/03/14 17:30	98.54g/1971mL	100g/2000mL	NA
Batch: 4060355							
A4F0188-03	Soil	EPA 1311	06/09/14 10:00	06/12/14 17:19	99.67g/1993mL	100g/2000mL	NA
Batch: 4060436							
A4E0758-03	Soil	EPA 1311	05/29/14 09:25	06/16/14 17:49	95.13g/1903mL	100g/2000mL	NA
A4F0188-01	Soil	EPA 1311	06/09/14 08:30	06/16/14 17:49	94.6g/1892mL	100g/2000mL	NA
A4F0188-04	Soil	EPA 1311	06/09/14 13:20	06/16/14 17:49	87g/1740mL	100g/2000mL	NA
A4F0188-05	Soil	EPA 1311	06/09/14 13:25	06/16/14 17:49	91.46g/1829mL	100g/2000mL	NA
A4F0188-06	Soil	EPA 1311	06/09/14 13:50	06/16/14 17:49	83.6g/1672mL	100g/2000mL	NA
A4F0188-07	Soil	EPA 1311	06/09/14 13:53	06/16/14 17:49	83.2g/1664mL	100g/2000mL	NA
			TCLP Metals by El	PA 6020 (ICPMS)			
Prep: EPA 1311/30) <u>15</u>				Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4060091							
A4E0674-04	Soil	1311/6020A	05/27/14 16:10	06/04/14 10:37	5mL/50mL	5mL/50mL	1.00
A4E0704-01	Soil	1311/6020A	05/28/14 14:55	06/04/14 10:37	5mL/50mL	5mL/50mL	1.00
A4E0704-02	Soil	1311/6020A	05/28/14 15:00	06/04/14 10:37	5mL/50mL	5mL/50mL	1.00
Batch: 4060379							
A4F0188-03	Soil	1311/6020A	06/09/14 10:00	06/13/14 10:22	5mL/50mL	5mL/50mL	1.00
Batch: 4060467							
A4E0758-03	Soil	1311/6020A	05/29/14 09:25	06/17/14 12:12	5mL/50mL	5mL/50mL	1.00
A4F0188-01	Soil	1311/6020A	06/09/14 08:30	06/17/14 12:12	5mL/50mL	5mL/50mL	1.00
A4F0188-04	Soil	1311/6020A	06/09/14 13:20	06/17/14 12:12	5mL/50mL	5mL/50mL	1.00
A4F0188-05	Soil	1311/6020A	06/09/14 13:25	06/17/14 12:12	5mL/50mL	5mL/50mL	1.00
A4F0188-06	Soil	1311/6020A	06/09/14 13:50	06/17/14 12:12	5mL/50mL	5mL/50mL	1.00
A4F0188-07	Soil	1311/6020A	06/09/14 13:53	06/17/14 12:12	5mL/50mL	5mL/50mL	1.00
			Percent Dr	y Weight			
Prep: Total Solids	(Dry Weight	<u>:)</u>			Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Apex Laboratories			The	results in this report apply to t	the samples analyzed in acco	ordance with the chain	of

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Philip Nerenberg, Lab Director

Philip Neimberg

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

SAMPLE PREPARATION INFORMATION

			Percent Dr	y Weight			
Batch: 4050448							
A4E0393-03	Soil	EPA 8000C	05/15/14 12:05	05/15/14 17:15	1N/A/1N/A	1N/A/1N/A	NA
A4E0393-04	Soil	EPA 8000C	05/15/14 12:20	05/15/14 17:15	1N/A/1N/A	1N/A/1N/A	NA
A4E0393-05	Soil	EPA 8000C	05/15/14 12:30	05/15/14 17:15	1N/A/1N/A	1N/A/1N/A	NA
A4E0393-06	Soil	EPA 8000C	05/15/14 12:45	05/15/14 17:15	1N/A/1N/A	1N/A/1N/A	NA
A4E0393-08	Soil	EPA 8000C	05/15/14 13:05	05/15/14 17:15	1N/A/1N/A	1N/A/1N/A	NA
A4E0393-09	Soil	EPA 8000C	05/15/14 13:20	05/15/14 17:15	1N/A/1N/A	1N/A/1N/A	NA
A4E0393-12	Soil	EPA 8000C	05/15/14 13:45	05/15/14 17:15	1N/A/1N/A	1N/A/1N/A	NA
A4E0393-14	Soil	EPA 8000C	05/15/14 14:00	05/15/14 17:15	1N/A/1N/A	1N/A/1N/A	NA
Batch: 4050763							
A4E0674-03	Soil	EPA 8000C	05/27/14 15:55	05/28/14 13:42	1N/A/1N/A	1N/A/1N/A	NA
A4E0674-04	Soil	EPA 8000C	05/27/14 16:10	05/28/14 13:42	1N/A/1N/A	1N/A/1N/A	NA
A4E0704-01	Soil	EPA 8000C	05/28/14 14:55	05/28/14 20:07	1N/A/1N/A	1N/A/1N/A	NA
A4E0704-02	Soil	EPA 8000C	05/28/14 15:00	05/28/14 20:07	1N/A/1N/A	1N/A/1N/A	NA
A4E0704-05	Soil	EPA 8000C	05/28/14 15:30	05/28/14 20:07	1N/A/1N/A	1N/A/1N/A	NA
Batch: 4060025							
A4E0758-01	Soil	EPA 8000C	05/30/14 08:10	06/02/14 15:40	1N/A/1N/A	1N/A/1N/A	NA
A4E0758-02	Soil	EPA 8000C	05/30/14 08:15	06/02/14 15:40	1N/A/1N/A	1N/A/1N/A	NA
A4E0758-03	Soil	EPA 8000C	05/29/14 09:25	06/02/14 15:40	1N/A/1N/A	1N/A/1N/A	NA
A4E0758-04	Soil	EPA 8000C	05/29/14 06:30	06/02/14 15:40	1N/A/1N/A	1N/A/1N/A	NA
A4E0765-01	Soil	EPA 8000C	05/30/14 09:30	06/02/14 15:40	1N/A/1N/A	1N/A/1N/A	NA
Batch: 4060258							
A4F0188-01	Soil	EPA 8000C	06/09/14 08:30	06/10/14 11:13	1N/A/1N/A	1N/A/1N/A	NA
A4F0188-02	Soil	EPA 8000C	06/09/14 08:35	06/10/14 11:13	1N/A/1N/A	1N/A/1N/A	NA
A4F0188-03	Soil	EPA 8000C	06/09/14 10:00	06/10/14 11:13	1N/A/1N/A	1N/A/1N/A	NA
A4F0188-04	Soil	EPA 8000C	06/09/14 13:20	06/10/14 11:13	1N/A/1N/A	1N/A/1N/A	NA
A4F0188-05	Soil	EPA 8000C	06/09/14 13:25	06/10/14 11:13	1N/A/1N/A	1N/A/1N/A	NA
A4F0188-06	Soil	EPA 8000C	06/09/14 13:50	06/10/14 11:13	1N/A/1N/A	1N/A/1N/A	NA
A4F0188-07	Soil	EPA 8000C	06/09/14 13:53	06/10/14 11:13	1N/A/1N/A	1N/A/1N/A	NA

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

Notes and Definitions

Qualifiers:

C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
EST	Result reported as an Estimated Value. MS fails. Analyte in the sample is greater than the amount spiked. Data is estimated.
P-10	Result estimated due to the presence of multiple aroclors and/or matrix interference.
Q-01	Spike recovery and/or RPD is outside acceptance limits.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
Q-04	Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
Q-16	Reanalysis of an original Batch QC sample.
Q-18	Matrix Spike results for this extraction batch are not reported due to the high dilution necessary for analysis of the source sample.
Q-29	Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
Q-41	Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
Q-42	Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
Q-43	Matrix Spike recovery is not applicable due to interfering Aroclor(s) in source sample.
R-04	Reporting levels elevated due to dilution necessary for analysis.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
TCLP	This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 4060060.
TCLPa	This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 4060355.
TCLPb	This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 4060436.

Notes and Conventions:

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

NR Not Reported

dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.

RPD Relative Percent Difference

MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.

WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.

Batch QC

Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

*** Used to indicate a possible discrepency with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31

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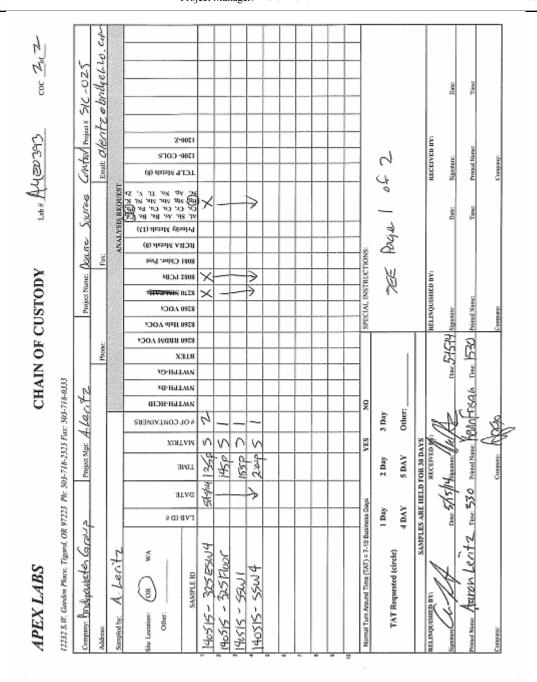
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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 08/05/14 10:31



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Philip Nemberg

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Appendix F

Topsoil Sample Laboratory Analytical Report and DEQ Approval From: LACEY David <LACEY.David@deq.state.or.us> Subject: RE: Bridgewater Data on 300 NE Multnomah Soil

Date: May 1, 2014 at 3:31:44 PM PDT To: "'Jim Jakubiak" <jjakubiak@schn.com> Cc: Aaron Leritz <aleritz@bridgeh2o.com>

Jim,

Based on my conversation with Aaron Leritz it is my understanding that the sample was a composite sample and is representative of the stockpiled soil. I reviewed this data and I do not see any detected exceedances of the Portland Harbor Clean fill requirements, Portland Harbor Final PRGs, or Portland Harbor JSCS SLV. If this is correct I don't see any issue with using the soil. Please send me a description of the sampling activities for the admin record.

The soil maybe stockpiled at the site as long as the approved 1200-C permit is fully implemented.

Also, I discussed with Aaron the format of the Work Plan. It should include at a minimum a description of the following:

- Extent of excavation
- Verification sampling plan for the excavation
- Cap construction details
- Cap extent details
- Document that the work will be completed following a site specific health and safety plan
- Document that the work will be done consistent with the DEQ approved 1200-c permit.
- Document that the work will be done consistent the City approved site development permit.
- Include the construction bid specifications.
 If you have any questions please call me at 503. 348-6665.
 Thanks
 Dave

From: Jim Jakubiak [mailto:jjakubiak@schn.com] Sent: Monday, April

28, 2014 9:07 AM **To:** LACEY David **Subject:** Bridgewater Data on 300 NE Multnomah Soil

Dave,

Aaron L. identified another source of soil for the cap at the Doane Lake site along Front Avenue.

With the exception of metals, the soil pile sample results are all ND. I will give you a call shortly to discuss.

Thanks,

Jim

From: Aaron Leritz [mailto:aleritz@bridgeh2o.com] **Sent:** Monday, April 28, 2014 7:48 AM **To:** Jim Jakubiak **Subject:** Bridgewater Data on 300 NE Multnomah Soil

Jim,

Please find attached the data report for the soil sample I collected from the soil stockpile excavated from 300 NE Mult.



AARON LERITZ 4500 SW KRUSE WAY; STE 110 LAKE OSWEGO, OR 97035 TEL: (503) 675-5252 FAX: (503) 675-1960 aleritz@bridgeh2o.com

May 12, 2014

Mr. David Lacey Oregon Department of Environmental Quality – Northwest Region 2020 SW Fourth Ave, Suite 400 Portland, OR 97201

Subject: Doane Lake Cap Source Soil Sampling, Analysis and Results (DEQ ECSI #395)

Dear Mr. Lacey,

On behalf of MMGL Corp. (MMGL), Bridgewater Group, Inc. (Bridgewater) collected a composite sample of soil identified as potential cap material for the Doane Lake site. The soil was excavated from 800 NE Holiday Street in Portland, Oregon. It is currently stockpiled at 10550 SE Reedway Street at R.A. Roth Company's (R.A. Roth) equipment yard.

Bridgewater mobilized to the R.A. Roth property on April 17, 2014, to inspect the soil and collect a sample. The soil is poorly graded, sandy loam. Bridgewater inspected all sides and the top of the stockpile. The soil was very uniform with no evidence of staining, odors, or foreign debris. Photos of the stockpile are attached.

Bridgewater collected a composite sample consisting of five discrete samples in the stockpile for the analysis of total petroleum hydrocarbons (TPH) (NWTPH-HCID), metals (U.S. Environmental Protection Agency [USEPA] Method 6020 ICP/MS), and polychlorinated biphenyls (PCBs) (USEPA Method 8082A). One sample was collected for volatile organic compound (VOC) analysis (USEPA 8260B) from the first discrete location. A figure showing the randomly-selected, discrete sample locations is attached.

At each sample point, Bridgewater used a decontamined shovel to excavate a hole ranging from 1.5 feet to 3 feet below the surface of the pile. The exposed soil was then removed by hand with a clean nitrile glove. A new pair of gloves was used to obtain the sample material and place it directly into a clean, laboratory-supplied, 8-ounce, glass sample container. The sample was then transferred to a decontaminated stainless-steel (SS) bowl. A new container and new pair of nitrile gloves were used for the collection and processing of each discrete sample.

The samples were homogenized in the SS bowl with a decontaminated SS spoon. Equal amounts of soil were transferred into new laboratory-supplied, 8-ounce jars with the SS spoon. The samples were labeled and placed in a cooler with ice and transported to the analytical laboratory under chain-of-custody procedures.

As noted above, a sample for VOC analysis was collected from the first discrete sample location. The sample was placed directly into a clean, laboratory-supplied, 8-ounce glass container. The container was filled completely so that no air space was present.

Mr. Mr. David Lacey Page 2 May 12, 2014

The results of the analyses indicate that TPH, PCBs, and VOCs were not detected above the method reporting limits (MRLs), and the MRLs are less than the DEQ risk-based concentrations (RBCs) for direct contact with soil by residential, occupational or construction workers and the DEQ-USEPA Joint Source Control Strategy (JSCS) screening level values (SLVs) for upland soil adjacent to the Portland Harbor Superfund Site, where available. Detected metals concentrations are similar to or below typical State of Oregon naturally occurring, background concentrations, the DEQ RBCs, and the DEQ-USEPA JSCS SLVs for upland soil adjacent to the Portland Harbor Superfund Site. The laboratory analytical report is also attached.

Please contact me with any further questions or comments. I can be reached at 503.675.0297.

Sincerely,

BRIDGEWATER GROUP, INC.

Aaron Leritz Vice President

Enclosures: 1. Stockpile Photographs

2. Figure - Soil Stockpile Sample Locations

3. Laboratory Analytical Report

cc: Jim Jakubiak/MMGL

Enclosure 1 Stockpile Photographs



Standing at Loading Area Looking Northeast. Lower and Upper Tiers Visible



Standing at Lower Tier Looking Northeast at Middle
Tier and Upper Tier



Northern Slope. Looking South



Close-up of Soil



Close -Up of Soil

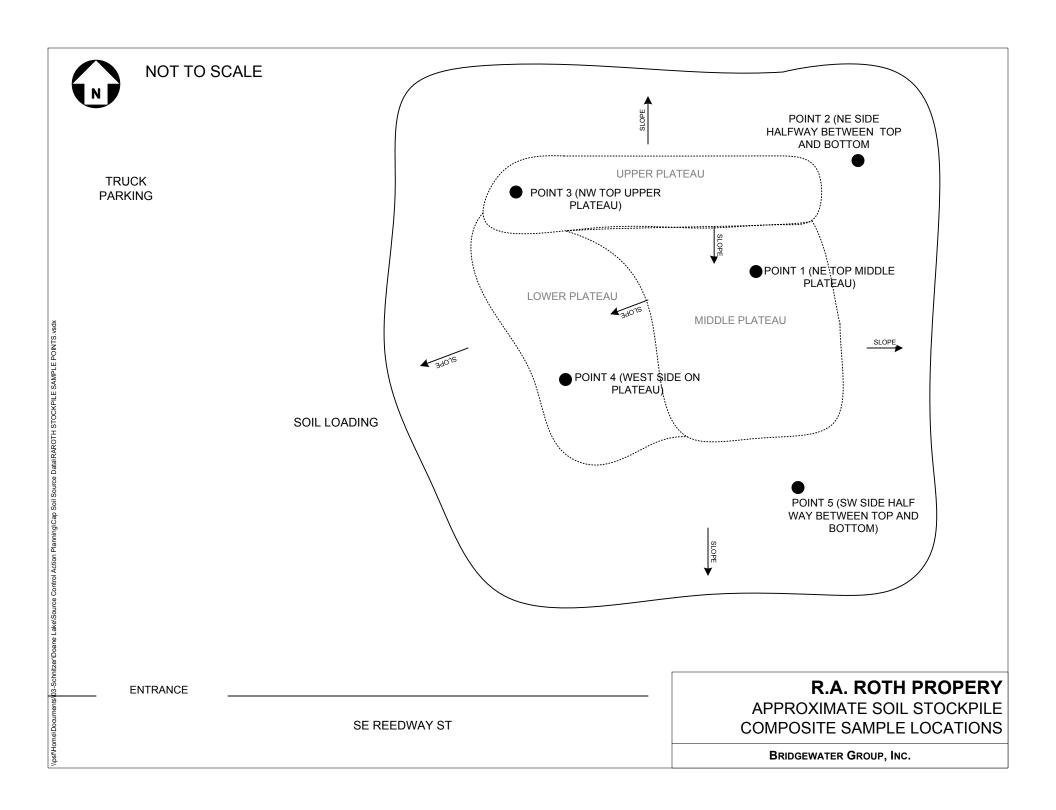


Example Sample Point (No. 1)

R.A. ROTH PROPERY SOIL STOCKPILE PHOTOGRAPHS

BRIDGEWATER GROUP, INC.

Enclosure 2 Stockpile Soil Sample Locations



Enclosure 3 Laboratory Analytical Report

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Tuesday, April 29, 2014

Aaron Leritz Bridgewater Group 4500 SW Kruse Way; Suite 110 Lake Oswego, OR 97035

RE: Doane Lake Soil Cap Source / SIC-025

Enclosed are the results of analyses for work order <u>A4D0430</u>, which was received by the laboratory on 4/17/2014 at 1:55:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

ANALYTICAL REPORT FOR SAMPLES

	SA	MPLE INFORM	IATION		
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	
Reedway-20140417	A4D0430-01	Soil	04/17/14 10:00	04/17/14 13:55	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

ANALYTICAL SAMPLE RESULTS

	H	ydrocarbo	on Identificat	tion Screen by	NWTPH-H	CID		
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
Reedway-20140417 (A4D0430-01)			Matrix: Soi	l Ba	tch: 40405	55		
Gasoline Range Organics	ND		21.2	mg/kg dry	1	04/18/14 22:04	NWTPH-HCID	
Diesel Range Organics	ND		53.1	"	"	"	"	
Oil Range Organics	ND		106	"	"	"	"	
Surrogate: o-Terphenyl (Surr)		Re	covery: 107 %	Limits: 50-150 %	"	"	"	
4-Bromofluorobenzene (Surr)			103 %	Limits: 50-150 %	"	"	"	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B Reporting Result MDL Limit Dilution Date Analyzed Method Notes Units Reedway-20140417 (A4D0430-01) Batch: 4040532 Matrix: Soil V-15 ug/kg dry 50 Acetone ND 1050 04/18/14 12:15 5035/8260B Benzene ND 13.1 Bromobenzene ND 26.2 ---Bromochloromethane ND 52.4 Bromodichloromethane ND 52.4 Bromoform ND 52.4 Bromomethane ND 524 2-Butanone (MEK) ND 524 n-Butylbenzene ND 52.4 sec-Butylbenzene ND 52.4 tert-Butylbenzene ND 52.4 Carbon tetrachloride ND 26.2 Chlorobenzene ND 26.2 ---Chloroethane ND 524 Chloroform ND 52.4 Chloromethane ND 262 2-Chlorotoluene ND 52.4 4-Chlorotoluene ND 52.4 1,2-Dibromo-3-chloropropane ND 262 Dibromochloromethane ND 105 1,2-Dibromoethane (EDB) ND ---26.2 Dibromomethane ND 52.4 1,2-Dichlorobenzene ND 26.2 1,3-Dichlorobenzene ND ---26.2 1,4-Dichlorobenzene ND 26.2 Dichlorodifluoromethane ND 105 1,1-Dichloroethane ND 26.2 1,2-Dichloroethane (EDC) ND 26.2 1,1-Dichloroethene ND 26.2 cis-1,2-Dichloroethene ND 26.2 trans-1,2-Dichloroethene ND 26.2 1,2-Dichloropropane ND 26.2 1,3-Dichloropropane ND 26.2 2,2-Dichloropropane ND 52.4 1,1-Dichloropropene ND 52.4

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Cor	mpounds by E	EPA 8260B			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Reedway-20140417 (A4D0430-01)			Matrix: Soil	В	Batch: 404053	32		V-1
cis-1,3-Dichloropropene	ND		52.4	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND		52.4	"	"	"	"	
Ethylbenzene	ND		26.2	"	"	"	"	
Hexachlorobutadiene	ND		105	"	"	"	"	
2-Hexanone	ND		524	"	"	"	"	
Isopropylbenzene	ND		52.4	"	"	"	"	
4-Isopropyltoluene	ND		52.4	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		524	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		52.4	"	"	"	"	
Methylene chloride	ND		262	"	"	"	"	
Naphthalene	ND		105	"	"	"	"	
n-Propylbenzene	ND		26.2	"	"	"	"	
Styrene	ND		52.4	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		26.2	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		26.2	"	"	"	"	
Tetrachloroethene (PCE)	ND		26.2	"	"	"	"	
Toluene	ND		52.4	"	"	"	"	
1,2,3-Trichlorobenzene	ND		262	"	"	"	"	
1,2,4-Trichlorobenzene	ND		262	"	"	"	"	
1,1,1-Trichloroethane	ND		26.2	"	"	"	"	
1,1,2-Trichloroethane	ND		26.2	"	"	"	"	
Trichloroethene (TCE)	ND		26.2	"	"	"	"	
Trichlorofluoromethane	ND		105	"	"	"	"	
1,2,3-Trichloropropane	ND		52.4	"	"	"	"	
1,2,4-Trimethylbenzene	ND		52.4	"	"	"	"	
1,3,5-Trimethylbenzene	ND		52.4	"	"	"	"	
Vinyl chloride	ND		26.2	"	"	"	"	
m,p-Xylene	ND		52.4	"	"	"	"	
o-Xylene	ND		26.2	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr))	Re	ecovery: 119 %	Limits: 70-130 %	1	"	n .	
1,4-Difluorobenzene (Surr)			108 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			105 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr)			95 %	Limits: 70-130 %	"	"	"	

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A Reporting Analyte Result MDL Limit Dilution Date Analyzed Method Notes Units Reedway-20140417 (A4D0430-01) Matrix: Soil Batch: 4040579 C-07 Aroclor 1016 04/21/14 14:25 EPA 8082A ND 10.3 ug/kg dry Aroclor 1221 10.3 ND Aroclor 1232 ND 10.3 ---Aroclor 1242 ND 10.3 Aroclor 1248 ND 10.3 Aroclor 1254 ND 10.3 Aroclor 1260 ND 10.3

Surrogate: Decachlorobiphenyl (Surr)

Recovery: 83 %

Limits: 60-125 %

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

ANALYTICAL SAMPLE RESULTS

		Tot	al Metals by	EPA 6020 (ICF	PMS)			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Reedway-20140417 (A4D0430-01)			Matrix: Soil			-		
Batch: 4040571								
Aluminum	8170		62.4	mg/kg dry	10	04/23/14 11:10	EPA 6020A	
Antimony	ND		1.25	"	"	04/22/14 09:34	"	
Arsenic	3.50		1.25	"	"	"	"	
Barium	107		1.25	"	"	"	"	
Beryllium	0.424		0.250	"	"	"	"	
Cadmium	0.287		0.250	"	"	"	"	
Chromium	10.2		1.25	"	"	"	"	
Cobalt	11.1		0.250	"	"	"	"	
Copper	16.2		1.25	"	"	"	"	
Iron	22800		62.4	"	"	"	"	
Lead	6.09		0.250	"	"	"	"	
Manganese	484		1.25	"	"	"	"	
Mercury	ND		0.0999	"	"	"	"	
Molybdenum	ND		1.25	"	"	"	"	
Nickel	15.6		1.25	"	"	"	"	
Selenium	ND		1.25	"	"	"	"	
Silver	ND		0.250	"	"	"	"	
Thallium	ND		0.250	"	"	"	"	
Vanadium	50.6		1.25	"	"	"	"	
Zinc	47.0		4.99	"	"	"	"	
Batch: 4040664								
Tungsten	ND		2.20	"	"	04/23/14 11:33	"	E-03
Uranium	ND		2.20	"	"	"	"	E-03

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

ANALYTICAL SAMPLE RESULTS

		Total	Metals by El	PA 6010C (ICI	P-AES)			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Reedway-20140417 (A4D0430-01)			Matrix: Soil					
Batch: 4040584								
Boron	ND		24.8	mg/kg dry	4	04/25/14 12:16	EPA 6010C	
Lithium	6.75		4.96	"	"	"	"	
Titanium	1340		4.96	"	"	"	"	
Tin	ND		4.96	"	"	"	"	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

ANALYTICAL SAMPLE RESULTS

			Percent	Dry Weight				
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Reedway-20140417 (A4D0430-01)			Matrix: Soil	Ва	atch: 404050)2		
% Solids	86.7		1.00	% by Weight	1	04/18/14 10:21	EPA 8000C	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number: SIC-025Reported:Lake Oswego, OR 97035Project Manager: Aaron Leritz04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

		Ну	drocarbon I	dentification	n Scre	en by NW7	PH-HCIE)				
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040555 - NWTPH-H	CID (Soil)						Soi					
Blank (4040555-BLK1)				Prep	ared: 04/	18/14 14:52	Analyzed:	04/18/14 20	:53			
NWTPH-HCID												
Gasoline Range Organics	ND		16.7	mg/kg wet	1							
Diesel Range Organics	ND		41.7	"	"							
Oil Range Organics	ND		83.3	"	"							
Surr: o-Terphenyl (Surr)		Rec	overy: 102 %	Limits: 50-1	50 %	Dilu	tion: 1x					
4-Bromofluorobenzene (Surr)			99 %	50-1	50 %		"					

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Philip Nerenberg, Lab Director

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number: SIC-025Reported:Lake Oswego, OR 97035Project Manager: Aaron Leritz04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			voiatile Oi	ganic Com	pounds	B DY EPA 8	5∠0UB					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040532 - EPA 5035	4						Soil					
Blank (4040532-BLK1)				Prepa	ared: 04/1	8/14 09:00	Analyzed:	04/18/14 11	:03			
5035/8260B												
Acetone	ND		667	ug/kg wet	50							
Benzene	ND		8.33	"	"							
Bromobenzene	ND		16.7	"	"							
Bromochloromethane	ND		33.3	"	"							
Bromodichloromethane	ND		33.3	"	"							
Bromoform	ND		33.3	"	"							
Bromomethane	ND		333	"	"							
2-Butanone (MEK)	ND		333	"	"							
n-Butylbenzene	ND		33.3	"	"							
ec-Butylbenzene	ND		33.3	"	"							
ert-Butylbenzene	ND		33.3	"	"							
Carbon tetrachloride	ND		16.7	"	"							
Chlorobenzene	ND		16.7	"	"							
Chloroethane	ND		333	"	"							
Chloroform	ND		33.3	"	"							
Chloromethane	ND		167	"	"							
2-Chlorotoluene	ND		33.3	"	"							
1-Chlorotoluene	ND		33.3	"	"							
1,2-Dibromo-3-chloroprop	ND		167	"	"							
ane Dibromochloromethane	ND		66.7	"	"							
1,2-Dibromoethane (EDB)	ND		16.7	"	"							
Dibromomethane	ND		33.3	"	"							
1,2-Dichlorobenzene	ND		16.7	"	"							
,3-Dichlorobenzene	ND		16.7	"	"							
,4-Dichlorobenzene	ND		16.7	"	"							
Dichlorodifluoromethane	ND		66.7	"	"							
,1-Dichloroethane	ND		16.7	"	"							
1,2-Dichloroethane (EDC)	ND		16.7	"	"							
1,1-Dichloroethene	ND		16.7	"	"	_						

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Com	pounds	by EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040532 - EPA 503	5A						Soil					
Blank (4040532-BLK1)				Prepa	red: 04/1	18/14 09:00	Analyzed:	04/18/14 11	:03			
cis-1,2-Dichloroethene	ND		16.7	ug/kg wet	"							
trans-1,2-Dichloroethene	ND		16.7	"	"							
1,2-Dichloropropane	ND		16.7	"	"							
1,3-Dichloropropane	ND		16.7	"	"							
2,2-Dichloropropane	ND		33.3	"	"							
1,1-Dichloropropene	ND		33.3	"	"							
cis-1,3-Dichloropropene	ND		33.3	"	"							
trans-1,3-Dichloropropene	ND		33.3	"	"							
Ethylbenzene	ND		16.7	"	"							
Hexachlorobutadiene	ND		66.7	"	"							
2-Hexanone	ND		333	"	"							
Isopropylbenzene	ND		33.3	"	"							
4-Isopropyltoluene	ND		33.3	"	"							
4-Methyl-2-pentanone (MiBK)	ND		333	"	"							
Methyl tert-butyl ether (MTBE)	ND		33.3	"	"							
Methylene chloride	ND		167	"	"							
Naphthalene	ND		66.7	"	"							
n-Propylbenzene	ND		16.7	"	"							
Styrene	ND		33.3	"	"							
1,1,1,2-Tetrachloroethane	ND		16.7	"	"							
1,1,2,2-Tetrachloroethane	ND		16.7	"	"							
Tetrachloroethene (PCE)	ND		16.7	"	"							
Toluene	ND		33.3	"	"							
1,2,3-Trichlorobenzene	ND		167	"	"							
1,2,4-Trichlorobenzene	ND		167	"	"							
1,1,1-Trichloroethane	ND		16.7	"	"							
1,1,2-Trichloroethane	ND		16.7	"	"							
Trichloroethene (TCE)	ND		16.7	"	"							
Trichlorofluoromethane	ND		66.7	"	"							
1,2,3-Trichloropropane	ND		33.3	"	"							

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Philip Nerenberg, Lab Director

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number: SIC-025Reported:Lake Oswego, OR 97035Project Manager: Aaron Leritz04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or		,							
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040532 - EPA 5035 <i>i</i>	١						Soi	l				
Blank (4040532-BLK1)				Prepa	ared: 04/	18/14 09:00	Analyzed:	04/18/14 11	1:03			
1,2,4-Trimethylbenzene	ND		33.3	"	"							
1,3,5-Trimethylbenzene	ND		33.3	"	"							
Vinyl chloride	ND		16.7	"	"							
m,p-Xylene	ND		33.3	"	"							
o-Xylene	ND		16.7	"	"							
Surr: Dibromofluoromethane (Surr)		Reco	overy: 114 %	Limits: 70-1	30 %	Dil	ution: 1x					
1,4-Difluorobenzene (Surr)			107 %	70-1	30 %		"					
Toluene-d8 (Surr)			105 %		30 %		"					
4-Bromofluorobenzene (Surr)			96 %	70-1.	30 %		"					
LCS (4040532-BS1)				Prepa	ared: 04/	18/14 09:00	Analyzed:	04/18/14 10	0:14			
5035/8260B												
Acetone	2190		1000	ug/kg wet	50	2000		110	65-135%			
Benzene	1020		12.5	"	"	1000		102	"			
Bromobenzene	970		25.0	"	"	"		97	"			
Bromochloromethane	1250		50.0	"	"	"		125	"			
Bromodichloromethane	1180		50.0	"	"	"		118	"			
Bromoform	1120		50.0	"	"	"		112	"			
Bromomethane	1420		500	"	"	"		142	"			EST
2-Butanone (MEK)	2350		500	"	"	2000		118	"			
n-Butylbenzene	1130		50.0	"	"	1000		113	"			
sec-Butylbenzene	1140		50.0	"	"	"		114	"			
tert-Butylbenzene	1140		50.0	"	"	"		114	"			
Carbon tetrachloride	1260		25.0	"	"	"		126	"			
Chlorobenzene	1010		25.0	"	"	"		101	"			
Chloroethane	1710		500	"	"	"		171	"			ES
Chloroform	1010		50.0	"	"	"		101	"			
Chloromethane	994		250	"	"	"		99	"			
2-Chlorotoluene	1040		50.0	"	"	"		104	"			
4-Chlorotoluene	1110		50.0	"	"	"		111	"			
1,2-Dibromo-3-chloroprop	862		250	"	"	"		86	"			

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Con	npound	s by EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
3atch 4040532 - EPA 503	5A						Soil					
LCS (4040532-BS1)				Pre	pared: 04/	18/14 09:00	Analyzed:	04/18/14 10	:14			
Dibromochloromethane	1050		100	ug/kg wet	"	"		105	"			
1,2-Dibromoethane (EDB)	1050		25.0	"	"	"		105	"			
Dibromomethane	1120		50.0	"	"	"		112	"			
1,2-Dichlorobenzene	982		25.0	"	"	"		98	"			
1,3-Dichlorobenzene	1020		25.0	"	"	"		102	"			
1,4-Dichlorobenzene	995		25.0	"	"	"		100	"			
Dichlorodifluoromethane	731		100	"	"	"		73	"			
1,1-Dichloroethane	1150		25.0	"	"	"		115	"			
1,2-Dichloroethane (EDC)	1180		25.0	"	"	"		118	"			
1,1-Dichloroethene	1210		25.0	"	"	"		121	"			
cis-1,2-Dichloroethene	1140		25.0	"	"	"		114	"			
trans-1,2-Dichloroethene	1160		25.0	"	"	"		116	"			
1,2-Dichloropropane	1170		25.0	"	"	"		117	"			
1,3-Dichloropropane	1040		25.0	"	"	"		104	"			
2,2-Dichloropropane	1190		50.0	"	"	"		119	"			
1,1-Dichloropropene	1090		50.0	"	"	"		109	"			
cis-1,3-Dichloropropene	952		50.0	"	"	"		95	"			
trans-1,3-Dichloropropene	1060		50.0	"	"	"		106	"			
Ethylbenzene	1040		25.0	"	"	"		104	"			
Hexachlorobutadiene	908		100	"	"	"		91	"			
2-Hexanone	1930		500	"	"	2000		97	"			
Isopropylbenzene	1110		50.0	"	"	1000		111	"			
4-Isopropyltoluene	1100		50.0	"	"	"		110	"			
1-Methyl-2-pentanone MiBK)	2220		500	"	"	2000		111	"			
Methyl tert-butyl ether MTBE)	1050		50.0	"	"	1000		105	"			
Methylene chloride	1060		250	"	"	"		106	"			
Naphthalene	758		100	"	"	"		76	"			
-Propylbenzene	1100		25.0	"	"	"		110	"			
Styrene	983		50.0	"	"	"		98	"			
,1,1,2-Tetrachloroethane	1110		25.0	"	"	"		111	"			

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

				gaine 001	pound	s by EPA 8						
Analyte	Result		eporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040532 - EPA 5035 <i>i</i>	4						Soi	l				
LCS (4040532-BS1)				Pre	pared: 04/	18/14 09:00	Analyzed:	04/18/14 10	:14			
1,1,2,2-Tetrachloroethane	1030		25.0	"	"	"		103	"			
Tetrachloroethene (PCE)	940		25.0	"	"	"		94	"			
Toluene	976		50.0	"	"	"		98	"			
1,2,3-Trichlorobenzene	880		250	"	"	"		88	"			
1,2,4-Trichlorobenzene	906		250	"	"	"		91	"			
1,1,1-Trichloroethane	1160		25.0	"	"	"		116	"			
1,1,2-Trichloroethane	1040		25.0	"	"	"		104	"			
Trichloroethene (TCE)	1040		25.0	"	"	"		104	"			
Trichlorofluoromethane	1960		100	"	"	"		196	"			EST
1,2,3-Trichloropropane	984		50.0	"	**	"		98	"			
1,2,4-Trimethylbenzene	1100		50.0	"	**	"		110	"			
1,3,5-Trimethylbenzene	1130		50.0	"	**	"		113	"			
Vinyl chloride	1140		25.0	"	"	"		114	"			
m,p-Xylene	2200		50.0	"	"	2000		110	"			
o-Xylene	1080		25.0	"	"	1000		108	"			
urr: Dibromofluoromethane (Surr)		Recover	y: 113 %	Limits: 70	-130 %	Dilı	tion: Ix					
1,4-Difluorobenzene (Surr)			105 %		-130 %		"					
Toluene-d8 (Surr)			101 % 92 %		-130 % -130 %		"					
4-Bromofluorobenzene (Surr)			92 %	/0-	-130 %							
Duplicate (4040532-DUP1)				Pre	pared: 04/	17/14 16:04	Analyzed:	04/18/14 12	:40			
QC Source Sample: Reedway-20140- 5035/8260B	417 (A4D043	0-01)										
Acetone	ND		1160	ug/kg dry	50		ND				30%	
Benzene	ND		14.5	"	"		ND				30%	
Bromobenzene	ND		29.1	"	"		ND				30%	
Bromochloromethane	ND		58.2	"	**		ND				30%	
Bromodichloromethane	ND		58.2	"	"		ND				30%	
Bromoform	ND		58.2	"	"		ND				30%	
Bromomethane	ND		582	"	"		ND				30%	
2-Butanone (MEK)	ND		582	"	"		ND				30%	
n-Butylbenzene	ND		58.2	"	,,		ND				30%	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Com	pounds	by EPA 8	3260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040532 - EPA 503	5A						Soil					
Duplicate (4040532-DUP1)				Prepa	ared: 04/1	7/14 16:04	Analyzed:	04/18/14 12	:40			
QC Source Sample: Reedway-2014	40417 (A4D043	0-01)										
sec-Butylbenzene	ND		58.2	ug/kg dry	"		ND				30%	
tert-Butylbenzene	ND		58.2	"	"		ND				30%	
Carbon tetrachloride	ND		29.1	"	"		ND				30%	
Chlorobenzene	ND		29.1	"	"		ND				30%	
Chloroethane	ND		582	"	"		ND				30%	
Chloroform	ND		58.2	"	"		ND				30%	
Chloromethane	ND		291	"	"		ND				30%	
2-Chlorotoluene	ND		58.2	"	"		ND				30%	
4-Chlorotoluene	ND		58.2	"	"		ND				30%	
1,2-Dibromo-3-chloroprop	ND		291	"	"		ND				30%	
ane) / D		11.6	"	"						200/	
Dibromochloromethane	ND		116	"	,,		ND				30%	
1,2-Dibromoethane (EDB)	ND		29.1	"	,,		ND				30%	
Dibromomethane	ND		58.2	"	,,		ND				30%	
1,2-Dichlorobenzene	ND		29.1	"	,,		ND				30%	
1,3-Dichlorobenzene	ND		29.1	"	"		ND				30%	
1,4-Dichlorobenzene	ND		29.1		"		ND				30%	
Dichlorodifluoromethane	ND		116	"			ND				30%	
1,1-Dichloroethane	ND		29.1	"	"		ND				30%	
1,2-Dichloroethane (EDC)	ND		29.1	"	"		ND				30%	
1,1-Dichloroethene	ND		29.1	"	"		ND				30%	
cis-1,2-Dichloroethene	ND		29.1	"	"		ND				30%	
trans-1,2-Dichloroethene	ND		29.1	"	"		ND				30%	
1,2-Dichloropropane	ND		29.1	"	"		ND				30%	
1,3-Dichloropropane	ND		29.1	"	"		ND				30%	
2,2-Dichloropropane	ND		58.2	"	"		ND				30%	
1,1-Dichloropropene	ND		58.2	"	"		ND				30%	
cis-1,3-Dichloropropene	ND		58.2	"	"		ND				30%	
trans-1,3-Dichloropropene	ND		58.2	"	"		ND				30%	
Ethylbenzene	ND		29.1	"	"		ND				30%	

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

		Re	porting			Spike	Source		%REC		RPD	
Analyte	Result		Limit	Units	Dil.	Amount	Result	%REC	Limits	RPD	Limit	Notes
Batch 4040532 - EPA 5035A							Soil					
Duplicate (4040532-DUP1)				P	repared: 04/	17/14 16:04	Analyzed:	04/18/14 12	:40			
QC Source Sample: Reedway-201404	17 (A4D043	0-01)										
Hexachlorobutadiene	ND		116	ug/kg dı	y "		ND				30%	
2-Hexanone	ND		582	"	"		ND				30%	
Isopropylbenzene	ND		58.2	"	"		ND				30%	
4-Isopropyltoluene	ND		58.2	"	"		ND				30%	
4-Methyl-2-pentanone (MiBK)	ND		582	"	"		ND				30%	
Methyl tert-butyl ether (MTBE)	ND		58.2	"	"		ND				30%	
Methylene chloride	ND		291	"	"		ND				30%	
Naphthalene	ND		116	"	"		ND				30%	
n-Propylbenzene	ND		29.1	"	"		ND				30%	
Styrene	ND		58.2	"	"		ND				30%	
1,1,1,2-Tetrachloroethane	ND		29.1	"	"		ND				30%	
1,1,2,2-Tetrachloroethane	ND		29.1	"	"		ND				30%	
Tetrachloroethene (PCE)	ND		29.1	"	"		ND				30%	
Toluene	ND		58.2	"	"		ND				30%	
1,2,3-Trichlorobenzene	ND		291	"	"		ND				30%	
1,2,4-Trichlorobenzene	ND		291	"	"		ND				30%	
1,1,1-Trichloroethane	ND		29.1	"	"		ND				30%	
1,1,2-Trichloroethane	ND		29.1	"	"		ND				30%	
Trichloroethene (TCE)	ND		29.1	"	"		ND				30%	
Trichlorofluoromethane	ND		116	"	"		ND				30%	
1,2,3-Trichloropropane	ND		58.2	"	"		ND				30%	
1,2,4-Trimethylbenzene	ND		58.2	"	"		ND				30%	
1,3,5-Trimethylbenzene	ND		58.2	"	"		ND				30%	
Vinyl chloride	ND		29.1	"	"		ND				30%	
m,p-Xylene	ND		58.2	"	"		ND				30%	
o-Xylene	ND		29.1	"	"		ND				30%	
urr: Dibromofluoromethane (Surr)		Recovery	: 120 %	Limits: 7	70-130 %	Dilı	ution: 1x					
1,4-Difluorobenzene (Surr)			108 %	7	0-130 %		"					

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Co	mpound	s by EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch 4040532 - EPA 5035A Soil

Duplicate (4040532-DUP1) Prepared: 04/17/14 16:04 Analyzed: 04/18/14 12:40

QC Source Sample: Reedway-20140417 (A4D0430-01)

Surr: 4-Bromofluorobenzene (Surr) Recovery: 94 % Limits: 70-130 % Dilution: 1x

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number:SIC-025Reported:Lake Oswego, OR 97035Project Manager:Aaron Leritz04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

Prepared: 04/21/14 09:59 Analyzed: 04/21/14 13:49 C-09/24													
Analyte	Result	MDL		Units	Dil.			%REC		RPD		Notes	
Batch 4040579 - EPA 3546							Soi	l					
Blank (4040579-BLK1)				Prepa	red: 04/	21/14 09:59	Analyzed:	04/21/14 13	3:49			C-07	
EPA 8082A													
Aroclor 1016	ND		8.33	ug/kg wet	1								
Aroclor 1221	ND		8.33	"	"								
Aroclor 1232	ND		8.33	"	"								
Aroclor 1242	ND		8.33	"	"								
Aroclor 1248	ND		8.33	"	"								
Aroclor 1254	ND		8.33	"	"								
Aroclor 1260	ND		8.33	"	"								
Surr: Decachlorobiphenyl (Surr)		Re	covery: 90 %	Limits: 60-12	25 %	Dilu	ution: 1x						
LCS (4040579-BS1)				Prepa	ared: 04/	21/14 09:59	Analyzed:	04/21/14 14	4:07			C-07	
EPA 8082A													
Aroclor 1016	205		10.0	ug/kg wet	1	250		82	40-140%				
Aroclor 1260	254		10.0	"	"	"		102	60-130%				
Surr: Decachlorobiphenyl (Surr)		Re	covery: 92 %	Limits: 60-12	25 %	Dili	ution: 1x						
Matrix Spike (4040579-MS1)				Prepa	ared: 04/	21/14 09:59	Analyzed:	04/21/14 14	4:43			C-07	
QC Source Sample: Reedway-20140	417 (A4D043	30-01)											
EPA 8082A													
Aroclor 1016	191		10.5	ug/kg dry	1	262	ND	73	40-140%				
Aroclor 1260	240		10.5	"	"	"	ND	92	60-130%				
Surr: Decachlorobiphenyl (Surr)		Recovery: 80 % Limits: 60-125 % Dilution: Ix											

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Total	Metals by E	PA 60	20 (ICPMS))		·			
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040571 - EPA 3051	Α						Soil	l				
Blank (4040571-BLK1)				Prepa	red: 04/2	21/14 08:32	Analyzed:	04/22/14 0	18:59			
EPA 6020A												
Antimony	ND		1.00	mg/kg wet	10							
Arsenic	ND		1.00	"	"							
Barium	ND		1.00	"	"							
Cadmium	ND		0.200	"	"							
Chromium	ND		1.00	"	"							
Cobalt	ND		0.200	"	"							
Copper	ND		1.00	"	"							
Iron	ND		50.0	"	"							
Lead	ND		0.200	"	"							
Manganese	ND		1.00	"	"							
Mercury	ND		0.0800	"	"							
Nickel	ND		1.00	"	"							
Selenium	ND		1.00	"	"							
Silver	ND		0.200	"	"							
Thallium	ND		0.200	"	"							
Vanadium	ND		1.00	"	"							
Zinc	ND		4.00	"	"							
Blank (4040571-BLK2)				Prepa	red: 04/2	21/14 08:32	Analyzed:	04/23/14 1	0:55			
EPA 6020A Aluminum	ND		50.0	mg/kg wet	10							Q-1
Beryllium	ND		0.200	"	"							Q-1
Molybdenum	ND		1.00	"	"							Q-1
LCS (4040571-BS1)				Prepa	ared: 04/2	21/14 08:32	Analyzed:	04/22/14 0	9:02			
EPA 6020A												
Antimony	24.7		1.00	mg/kg wet	10	25.0		99	80-120%			
Arsenic	49.3		1.00	"	"	50.0		99	"			
Barium	48.0		1.00	"	"	"		96	"			
Beryllium	23.4		0.200	"	"	25.0		94	"			
Cadmium	48.6		0.200	"	"	50.0		97	"			

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Total	Metals by E	PA 60	20 (ICPMS)					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040571 - EPA 30	51A						Soil					
LCS (4040571-BS1)				Prepa	red: 04/	21/14 08:32	Analyzed: (04/22/14 09	9:02			
Chromium	50.4		1.00	mg/kg wet	"	"		101	"			
Cobalt	50.2		0.200	"	"	"		100	"			
Copper	49.2		1.00	"	"	"		98	"			
Iron	5090		50.0	"	"	5000		102	"			
Lead	49.8		0.200	"	"	50.0		100	"			
Manganese	51.6		1.00	"	"	"		103	"			
Mercury	0.972		0.0800	"	"	1.00		97	"			
Molybdenum	25.0		1.00	"	"	25.0		100	"			
Nickel	49.6		1.00	"	"	50.0		99	"			
Selenium	25.9		1.00	"	"	25.0		104	"			
Silver	23.7		0.200	"	"	"		95	"			
Thallium	24.1		0.200	"	"	"		96	"			
Vanadium	50.8		1.00	"	"	50.0		102	"			
Zinc	50.4		4.00	"	"	"		101	"			
LCS (4040571-BS2)				Prepa	red: 04/	21/14 08:32	Analyzed: (04/23/14 10):58			
EPA 6020A												
Aluminum	5320		50.0	mg/kg wet	10	5000		106	80-120%			Q-16
Post Spike (4040571-PS1)				Prepa	red: 04/	23/14 11:40	Analyzed: (04/23/14 16	5:29			
Aluminum	222000			ug/L	50	90900	125000	107	80-120%			
Iron	416000			"	"	"	284000	145	"			PS-02

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

Analyte	Result	MDL	Reporting									
			Ĺimit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040664 - EPA 305	1 A						Soi	I				
Blank (4040664-BLK1)				Prepa	ared: 04/2	23/14 09:22	Analyzed:	04/23/14 1	1:30			
EPA 6020A												
Tungsten	ND		1.80	mg/kg wet	10							E-03
Uranium	ND		1.80	"	"							E-03
LCS (4040664-BS1)				Prepa	ared: 04/2	23/14 09:22	Analyzed:	04/23/14 1	1:31			
EPA 6020A												
Tungsten	2.75		1.80	mg/kg wet	10	2.50		110	80-120%			E-03
Uranium	3.24		1.80	"	"	"		130	"			E-03, Q-29
Duplicate (4040664-DUP1)				Prepa	ared: 04/2	23/14 09:22	Analyzed:	04/23/14 1	1:34			
QC Source Sample: Reedway-2014	40417 (A4D043	30-01)										
EPA 6020A												
Tungsten	ND		2.27	mg/kg dry	10		ND				40%	E-03
Uranium	ND		2.27	"	"		ND				40%	E-03
Matrix Spike (4040664-MS1)				Prepa	ared: 04/2	23/14 09:22	Analyzed:	04/23/14 1	1:35			
QC Source Sample: Reedway-201-	40417 (A4D043	30-01)										
EPA 6020A												
Tungsten	2.44		2.29	mg/kg dry	10	3.18	ND	77	75-125%			E-03
Uranium	4.70		2.29	"	"	"	ND	148	"			A-01, E-03

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

			Total M	letals by EP	A 6010	C (ICP-AE	ES)					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040584 - EPA 305	1 A						Soi					
Blank (4040584-BLK1)				Prepa	red: 04/2	22/14 08:51	Analyzed:	04/25/14 1	12:08			
EPA 6010C												
Boron	ND		20.0	mg/kg wet	4							
Lithium	ND		4.00	"	"							
Titanium	ND		4.00	"	"							
Tin	ND		4.00	"	"							
LCS (4040584-BS1)				Prepa	red: 04/2	22/14 08:51	Analyzed:	04/25/14 1	12:12			
EPA 6010C												
Boron	101		20.0	mg/kg wet	4	100		101	80-120%			
Lithium	194		4.00	"	"	200		97	"			
Titanium	190		4.00	"	"	"		95	"			
Tin	40.9		4.00	"	"	40.0		102	"			
Duplicate (4040584-DUP1)				Prepa	red: 04/2	22/14 08:51	Analyzed:	04/25/14 1	12:20			
QC Source Sample: Reedway-201 EPA 6010C	40417 (A4D043	30-01)										
Boron	ND		24.9	mg/kg dry	4		ND				40%	
Lithium	6.43		4.98	"	"		6.75			5	40%	
Titanium	1440		4.98	"	"		1340			7	40%	
Tin	ND		4.98	"	"		ND				40%	
Matrix Spike (4040584-MS1)				Prepa	red: 04/2	22/14 08:51	Analyzed:	04/25/14 1	12:24			
QC Source Sample: Reedway-201	40417 (A4D043	30-01)										
EPA 6010C												
Boron	122		24.9	mg/kg dry	4	125	ND	98	75-125%			
Lithium	247		4.97	"	"	249	6.75	97	"			
Titanium	1640		4.97	"	"	"	1340	120	"			
Tin	49.8		4.97	"	"	49.7	ND	100	"			

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

QUALITY CONTROL (QC) SAMPLE RESULTS

				Percent	Dry We	ight						
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4040502 - To	otal Solids (Dry We	eight)					Soil					

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110Project Number:SIC-025Reported:Lake Oswego, OR 97035Project Manager:Aaron Leritz04/29/14 13:38

SAMPLE PREPARATION INFORMATION

		Hydroc	arbon Identification	Screen by NWTPH-H	CID		
Prep: NWTPH-HCII	O (Soil)				Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4040555							
A4D0430-01	Soil	NWTPH-HCID	04/17/14 10:00	04/18/14 14:52	10.86g/10mL	10g/10mL	0.92
		Vol	atile Organic Comp	ounds by EPA 8260B			
Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4040532							
A4D0430-01	Soil	5035/8260B	04/17/14 10:00	04/17/14 16:04	12.882g/10mL	10g/10mL	0.78
		P	olychlorinated Biphe	enyls by EPA 8082A			
Prep: EPA 3546					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4040579							
A4D0430-01	Soil	EPA 8082A	04/17/14 10:00	04/21/14 09:59	11.24g/5mL	10g/5mL	0.89
			Total Metals by EP	PA 6020 (ICPMS)			
Prep: EPA 3051A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4040571							
A4D0430-01	Soil	EPA 6020A	04/17/14 10:00	04/21/14 08:32	0.462g/50mL	0.5g/50mL	1.08
Batch: 4040664	G :1	EDA (020 A	04/17/14 10 00	0.4/22/1.4.00.22	0.470 /50 1	0.5.450. 1	1.06
A4D0430-01	Soil	EPA 6020A	04/17/14 10:00	04/23/14 09:22	0.472g/50mL	0.5g/50mL	1.06
			Total Metals by EPA	6010C (ICP-AES)			
Prep: EPA 3051A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4040584							
A4D0430-01	Soil	EPA 6010C	04/17/14 10:00	04/22/14 08:51	0.465g/50mL	0.5g/50mL	1.08
			Percent Dr	y Weight			
Prep: Total Solids	(Dry Weigh	<u>t)</u>			Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 4040502							_
Apex Laboratories			The	results in this report apply to th	ne samples analyzed in acco	ordance with the chain	ı of
^ -			custo	ody document. This analytical	report must be reproduced i	n its entirety.	
Philip Ne	/22 -						

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

SAMPLE PREPARATION INFORMATION

			Percent Dr	y Weight			
Prep: Total Solids	(Dry Weight	<u>t)</u>			Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
A4D0430-01	Soil	EPA 8000C	04/17/14 10:00	04/17/14 17:11	1N/A/1N/A	1N/A/1N/A	NA

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

Notes and Definitions

Qualifiers:

A-01	Recovery of MS was outside control limits. Results ma	y be biased high. All associated samples were ND for this element.
A-01	ixecuvery of ivid was outside control inints. Ixesuits in	ly be blased fight. All associated samples were typ for this element.

C-07 Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.

E-03 Result is reported as an estimated value. QA protocols have not been met for this analyte.

EST Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.

Q-16 Reanalysis of an original Batch QC sample.

Q-29 Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.

V-15 Sample aliquot was subsampled from the sample container. The subsampled aliquot was preserved in the laboratory within 48 hours of sampling.

Notes and Conventions:

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.

RPD Relative Percent Difference

MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.

WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.

Batch QC

Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

*** Used to indicate a possible discrepency with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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Bridgewater Group Project: Doane Lake Soil Cap Source

4500 SW Kruse Way; Suite 110 Project Number: SIC-025 Reported:
Lake Oswego, OR 97035 Project Manager: Aaron Leritz 04/29/14 13:38

Citain of Custody Record & Laboratory Analysis Request	G Labora	Diy Aim	ysis kedi	lest									
Lab Control Number:	Tum-around Requested:	Requested:	Standard		Date	Date: 4/17/14					I	アナラ	
Cilentifination To: Bridgewater Group, Inc. 1508 SWKuse Way, De 110, Lake Davege, OR 97035	R 97035				Page: 1	-	5	-			n	BRIDGEWATER GROUP, INC.	P. INC.
Bridgewoler Contact: Asien Lertz (503) 703-9090, erralt elertz@elegetze.com					No. of Coolens	-	Cooler D	Cooler Deturned Directly to Lab Turner from Roid	offy to Lab			4500 SW Krus Laka Cawe	Lake Cawego, OR 97035
Project Name: Doars Lake Soil Cap Source	9000							Analysis Requested	paparis			Notes/Cor	Notes/Comments
Bridgewatter Project#: SIC-026	Sampler: Aaron Leritz	aron Leftz			(S 31	aag							
Sample ID	Date	Time	Meeric	Na. Dortshem	SOSZA PCBs (See NO	Total Metals (8010C) (Bosts - Chor. Pestold	azeo (voc)	3530 (SADC®)	аюн натуу	ansnu¶lanixoi0		
Reedway-20140417	4/17/14		s	9	×	×		×		×			
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State of Notice	Ballon stratte												
1. Metals List: Repeat A12A252-01	(Bayesum)	1		Comme / /	4		e a	Reimquahed by: (Signaturi)			ब क	Ascevedty	
A respon to 200 uging	ıΙ	Aarefi Loritz		Kennfassiv	Paki.	_	ď	Parties Names.			É	Presid Name.	
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	Date & Time:		13/11/11	Date & Term			ľ						

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